

AMERICAN

MARCH • 1953

# Cinematographer

THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY

THEATRE  
TELEVISION  
INDUSTRIAL  
AMATEUR



*In This Issue . . .*

SPECIAL **3-D and WIDE SCREEN MOVIES** ISSUE

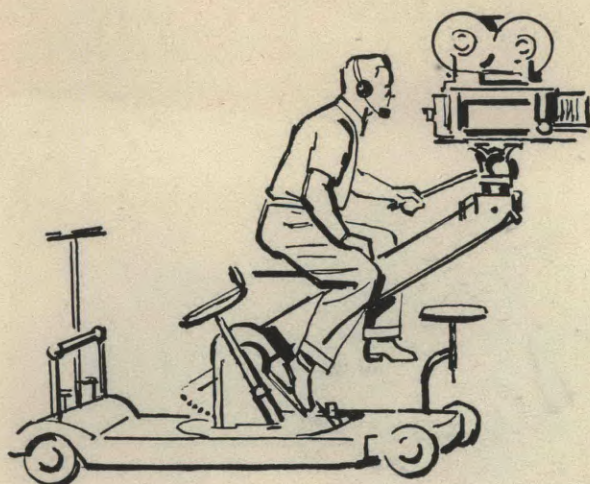
**25c**

\$3.00 YEARLY



# There's a DUPONT negative film

for every shooting assignment



Whether you're shooting in the studio . . . on the lot . . . or distant location . . . street scene . . . ball park or convention hall . . . day or night . . . there's a Du Pont Negative Taking Film to meet your specific needs.

The same continuing Du Pont photographic research that produced the first fully panchromatic negative over twenty-five years ago has also contributed to steady improvement in sensitivity, grain size and uniformity of the dependable films described below:

**TYPE 904 B**—"Superior" 1 . . . a 35 mm. panchromatic film recommended for general exterior and process backgrounds where lighting is ample. Has very fine grain, normal contrast, wide latitude. Gives excellent rendition of landscape greens.

**TYPE 926 B**—"Superior" 2 . . . a 35 mm. panchromatic all-purpose stock for exterior and interior production work. Has fine grain, medium speed, wide latitude . . . ideal for use in high- or low-key lighting.

**TYPE 927 B**—"Superior" 3 . . . a 35 mm. panchromatic film for interior and exterior shooting where limited illumination levels prevail. High speed facilitates use of reduced apertures when increased depth of focus is required. Holds halation from lights to minimum and is excellent for night work.

**TYPE 901 A**—"Superior" 2 . . . an all-purpose 16 mm. panchromatic film for interior and exterior use. Combines fine grain with speed and wide latitude. May be processed as a negative or by reversal.

**TYPE 914 A**—Panchromatic . . . a fine grain 16 mm. film with wide latitude for interior and exterior work. May be reversal-processed with excellent results.

**TYPE 930 A**—Rapid Reversal Pan . . . a 16 mm. medium speed negative designed especially for high-speed reversal processing. Widely used in daytime newsreel and sports photography.

**TYPE 931 A**—a 16 mm. high-speed panchromatic reversal film designed for combination of highest picture speed and very rapid processing. Widely used in night and incandescent photography for sports and newsreels. (Although Types 930 A and 931 A are designed for processing by reversal, they may also be exposed and processed as negatives.)

In all types of cinematography . . . whether for motion picture or television . . . leading cameramen prefer Du Pont films.

With high- or low-key lighting . . . in any kind of illumination . . . whatever your subject requires, there's a dependable Du Pont negative to do the job. E. I. du Pont de Nemours & Co. (Inc.), Photo Products Department, Wilmington 98, Delaware. *In Canada: Canadian Industries, Ltd., Montreal.*



## EXPOSURE DATA

### For Processing as Negative

### For Processing by Reversal

TYPE	Daylight	Incandescent	Daylight	Incandescent
904 B	25	20	—	—
926 B	80	64	—	—
927 B	125	100	—	—
901 A	40	32	64-125	50-100
914 A	32	25	40-64	25-40
930 A	50	40	64-80	50-64
931 A	80	64	125-160	100-125



REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

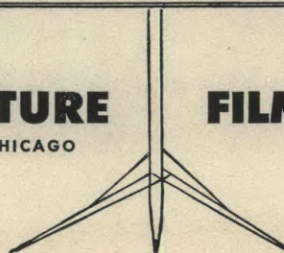
**DU PONT MOTION PICTURE**

NEW YORK

LOS ANGELES

CHICAGO

**FILM**

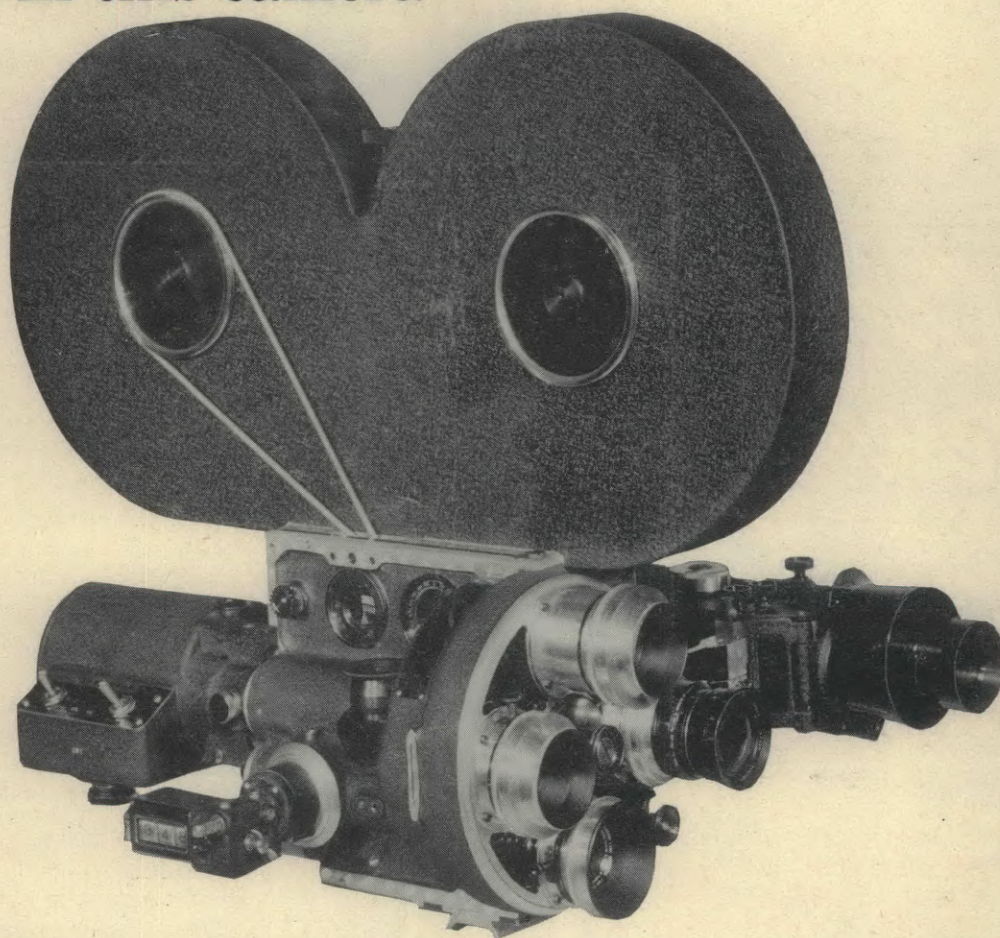




## THE MAGIC WORD . . . **STEREO**



This pin once again is at your service to provide the registration required for Stereo motion pictures when used in this camera—



— which you know as well as your own name!

*Write today for full details*

PROFESSIONAL EQUIPMENT DEPT.

**Bell & Howell Company**

7100 McCORMICK RD. • CHICAGO 45, ILLINOIS



# first!

... Cinema Research is the  
first and only organization  
with actual experience in  
**3-Dimension Optical Effects**

## Cinema Research Corp.

H. A. SCHEIB, President

7000 Romaine St. • Hollywood 38

HUdson 2-7464

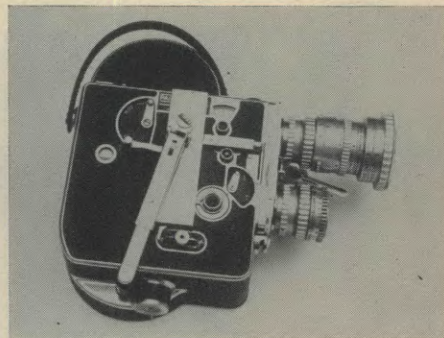
# best!

... Cinema Research is pre-  
ferred by producers for fine  
quality Eastman and Ansco  
**Color Duplicate Negatives**

## What's New...

IN EQUIPMENT, ACCESSORIES, SERVICE

**Yolo Dissolve for Bolex**—The famous Yolo Automatic Shutter control is now available for Bolex cameras having built-in frame counters and Pellegrini variable shutter. Device insures a perfect dissolve every time, evenly timed both for the fadein and fadeout—for real professional effect. Camera stops automatically at end of fadeout; opens



automatically at start of take. Manufacturer is Joseph Yolo, 5968 Santa Monica Blvd., Hollywood 38, Calif. Unit is also installed complete for \$57.00 by Tullio Pellegrini, 1545 Lombard St., San Francisco, maker of variable shutters for the Bolex H-16.

**Stereophonic Sound**—Anticipating the trend toward use of stereophonic sound for both 3-Dimension and wide-screen films, Kinevox, Inc., 116 So. Hollywood Way, Burbank, Calif., has developed the Kinevox portable synchronous stereophonic magnetic film recorder. Recording speed is 90 ft. per minute on 17½-mm film. Also available is theatre playback equipment, rack-mounted, in any reel capacity. Conventional Kinevox recorders can also be converted to record stereophonic sound, according to Len Roos, company president.

Please mention *American Cinematographer* when writing for further information.

**400-ft. Magazine For Bolex**—Toledo Cine Engineering, 1309 Milburn Ave., Toledo 6, Ohio, offer a 400-foot film magazine for the Bolex H-16 camera together with an electric motor drive for those who wish to use this popular camera for professional film production.

The complete conversion consists of a saddle block permanently attached to the Bolex camera; one 400-ft. external magazine with light trap; electric motor (3 types available); set of recessed roll-

(Continued on Page 140)





# *A Real Moneymaker!*



## **.... HOUSTON-FEARLESS PROCESSING EQUIPMENT PAYS OFF HANDSOMELY**

**T**he demand for fast, dependable, quality motion picture film processing is rapidly increasing in every community throughout the country, presenting an excellent opportunity for wide-awake film producers and local laboratories. The Houston-Fearless Model 22 Developer shown above makes it possible to provide this profitable service in your area with only a moderate investment.

This portable machine develops 16mm black and white, negative, positive or reversal films.

It is self-contained, entirely automatic and easy to operate. Complete refrigeration, re-circulating systems, air compressor and positive temperature controls. Operates in daylight, handling the entire job from camera to screen.

Model 22 is the same high Houston-Fearless quality that has been standard of the motion picture industry in Hollywood and throughout the world for 20 years. Other 16mm and 35mm Houston-Fearless black and white and color equipment to serve your particular requirements.

*Write for information on specially-built equipment for your specific needs.*

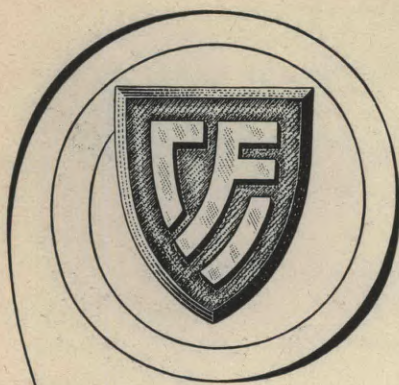
*The*  
**HOUSTON  
FEARLESS**  
*Corporation*

• DEVELOPING MACHINES • COLOR PRINTERS • FRICTION HEADS  
• COLOR DEVELOPERS • DOLLIES • TRIPODS • PRINTERS • CRANES

11809 W. OLYMPIC BLVD • LOS ANGELES 64, CALIF.

"WORLD'S LARGEST MANUFACTURER OF MOTION PICTURE PROCESSING EQUIPMENT"





**The Seal of Our  
Pledge to You ....**

**... to bring  
to the screen  
in flawless manner  
the artistry  
of your  
photography**

**Hollywood's  
only complete  
LABORATORY  
SERVICE**

**CONSOLIDATED  
FILM INDUSTRIES**

A DIVISION OF REPUBLIC PICTURES CORPORATION

**959 N. SEWARD ST.  
PHONE HO 9-1441**

AMERICAN

# Cinematographer

THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY  
PUBLICATION OF AMERICAN SOCIETY OF CINEMATOGRAPHERS

ARTHUR E. GAVIN, *Editor*

Technical Editor, EMERY HUSE

GLENN R. KERSHNER, *Art Editor*

Circulation, MARGUERITE DUERR

EDITORIAL ADVISORY BOARD: Fred W. Jackman, A.S.C., John Arnold, A.S.C., Arthur Edeson, A.S.C., Lee Garmes, A.S.C., Charles Rosher, A.S.C., Leon Shamroy, A.S.C., Fred Gage, A.S.C., Dr. L. A. Jones, A.S.C., Dr. C. E. K. Mees, A.S.C.

Editorial and Business Office: 1782 N. Orange Dr., Hollywood 28, Calif.  
Telephone: GRanite 2135

VOL. 34

MARCH • 1953

NO. 3

## CONTENTS

### ARTICLES

1952-53 CINEMATOGRAPHY AWARDS . . . . .	104
PRACTICAL FILMING TECHNIQUES FOR THREE-DIMENSION AND WIDE-SCREEN MOTION PICTURES—By Charles G. Clarke, ASC . . . . .	107
ALL HOLLYWOOD STUDIOS SHOOTING 3-D FILMS—By Arthur Gavin . . . . .	108
CINEMA SCOPE—WHAT IT IS; HOW IT WORKS . . . . .	112
NOMINEES FOR 1952 ACADEMY AWARDS—By Fred W. Jackman, ASC . . . . .	114
PRODUCERS SERVICE'S 3-D CAMERA . . . . .	116
ANAMORPHOSCOPE LENS NOT NEW . . . . .	132
A NEW APPROACH TO 3-D MOVIES WITHOUT VIEWERS . . . . .	136
3-DIMENSION OPTICAL EFFECTS—By George Burt . . . . .	140

### AMATEUR CINEMATOGRAPHY

MAGNETIC SOUND FOR VICTOR S.O.F. PROJECTORS—By John Forbes . . . . .	118
CINE AMATEURS CAN MAKE 3-D MOVIES, TOO—By Philip Tannura, ASC . . . . .	120

### FEATURES

HOLLYWOOD BULLETIN BOARD . . . . .	96
CURRENT ASSIGNMENTS OF A.S.C. MEMBERS . . . . .	138
WHAT'S NEW IN EQUIPMENT, ACCESSORIES, SERVICE . . . . .	142

### ON THE COVER

SHOOTING 3-D MOVIES AT WARNER BROTHERS—Peverell Marley, ASC, (left, seated) directed the photography of "House of Wax." Warner Brothers' initial stereo feature, which was photographed last month in Warnercolor with a Natural-Vision 3-D camera. Although it's hard to distinguish the wax figures from real persons on the set, girl wearing hat is Phyllis Kirk. Directing the scene is Andre de Toth, third from left.

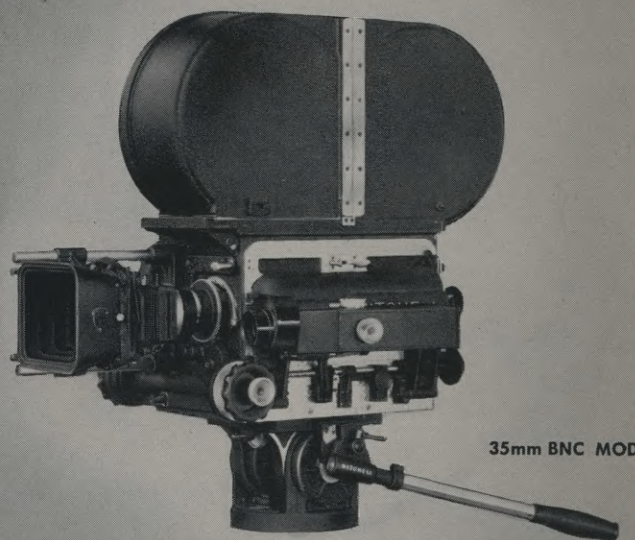
AMERICAN CINEMATOGRAPHER, established 1920, is published monthly by the A. S. C. Agency, Inc., 1782 N. Orange Dr., Hollywood 28, Calif. Entered as second class matter Nov. 18, 1937, at the postoffice at Los Angeles, Calif., under act of March 3, 1879. SUBSCRIPTIONS: United States and Pan-American Union, \$3.00 per year; Canada, \$3.00 per year; Foreign, \$4.00. Single copies, 25 cents; back numbers, 30 cents; foreign single copies, 35 cents; back numbers, 40 cents. Advertising rates on application. Copyright 1953 by A. S. C. Agency, Inc.



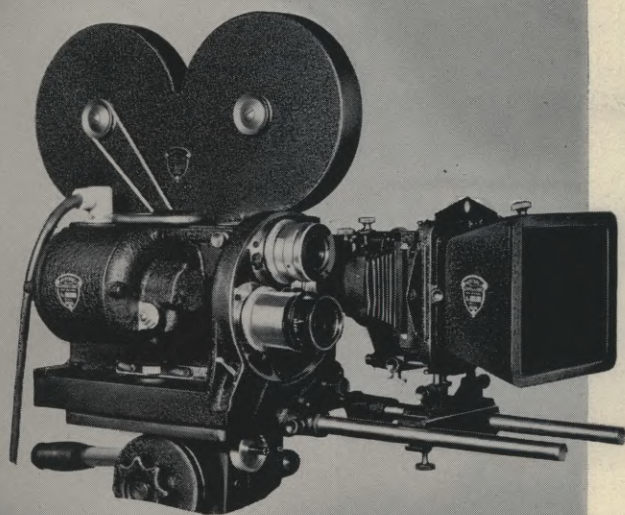
# Mitchell \*

**PROFESSIONAL EQUIPMENT  
FOR PROVEN  
PROFESSIONAL RESULTS**

*World's Finest  
16mm and 35mm  
Cameras!*



35mm BNC MOD



16mm PROFESSIONAL

**The Same Professional  
Features Whether You Choose A  
35mm or 16mm**

## *Mitchell*

Years-ahead smooth, positive operation has made the famed Mitchell 35mm Cameras the overwhelming choice of major studios. Incorporating the same advanced truly professional 35mm features, the Mitchell "16" Professional" Camera is being selected as the standard equipment of more and more commercial producers. The heritage of superior design and matchless workmanship of Mitchell Cameras is known and proven each day by the creators of *the world's finest films*.

THE **I** AND ONLY *Mitchell*

# Mitchell Camera CORPORATION

666 WEST HARVARD STREET • GLENDALE 4, CALIFORNIA • CABLE ADDRESS: "MITCAMCO"

EASTERN REPRESENTATIVE: THEODORE ALTMAN • 521 FIFTH AVENUE • NEW YORK CITY 17 • MURRAY HILL 2-7038

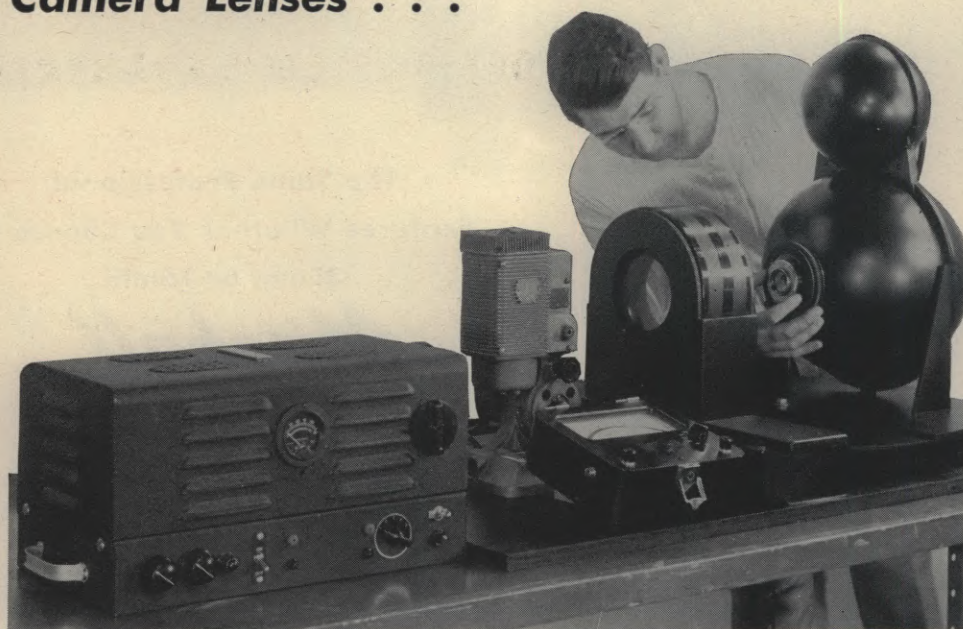




# Photo Research Corp. helps the **FILM INDUSTRY** convert to...

**PRC's Specialized T-Stop  
Calibration Service Insures  
Top Performance of Stereo  
Camera Lenses . . .**

# 3-D



PRC has the most modern scientific equipment for the accurate measurement and calibration of the light transmission of lenses.

Photo Research Corp. is the only commercial laboratory on the West Coast equipped to equalize diaphragm stops on lenses of all focal lengths to insure correct exposure density—so important for 2-camera stereoscopic cinematography.

*For more complete information write to*

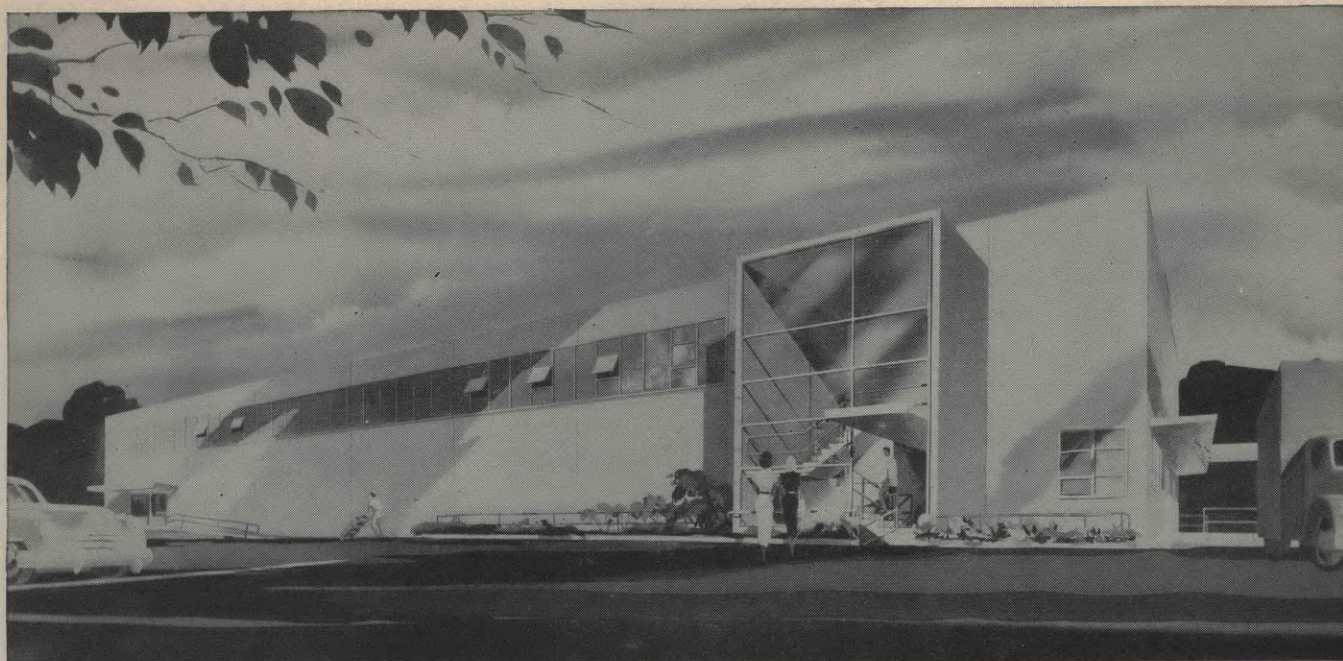


**PHOTO RESEARCH CORP.** KARL FREUND, President

127 West Alameda Ave. • Burbank, California

Telephone: CHarleston 0-8145





## CONSOLIDATED FILM INDUSTRIES

### NEW 16mm LAB

*Consolidated is proud to make available to users of 16mm film its new 16mm laboratory.*

This is the first large, fully-equipped, professional laboratory ever built for the processing of 16mm film exclusively. It incorporates every advanced facility for attaining the finest possible quality in 16mm black & white and color.



*In Every Field, One Name Stands Out.*

*In Film Laboratories, It's . . . CFI*

## CONSOLIDATED FILM INDUSTRIES

959 Seward Street  
Hollywood 38,  
California

phone: HOLLYWOOD 9-1441

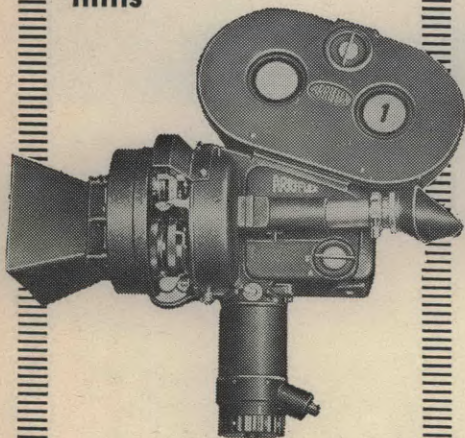


# ARRIFLEX

35mm  
Model 11

**A TRULY GREAT  
CAMERA**

for TV, Newsreel  
and commercial  
films



For tough and trying assignments, ARRIFLEX 35 is in a class by itself. Reflex focusing through photographing lens while camera is operating—this is just one outstanding ARRIFLEX feature.

Equipped with bright, right-side-up image finder,  $6\frac{1}{2} \times$  magnification. Solves all parallax problems. 3 lens turret. Variable speed motor built into handle operates from lightweight battery. Tachometer registering from 0 to 50 frames per second. Compact, lightweight for either tripod or hand-held filming. Takes 200' or 400' magazine. Write for free folder.

FRANK C. ZUCKER  
**CAMERA EQUIPMENT CO.**  
1600 BROADWAY NEW YORK CITY

## Hollywood Bulletin Board



WHEN BENNIE PINGA, official of Philippino Society of Cinematographers visited the ASC last month, Fred Jackman (l), ASC veepee, and Clyde DeVinna (r) presented him with important technical magazines and papers for PSC's new technical library.

**JOHN BOYLE, ASC**, drew assignment to shoot the second episode of Sol Lesser's "3-D Follies." Production is being filmed in color with Stereo-Cine Corp's. 3-dimension camera.

**KARL STRUSS, ASC**, has been elected chairman of the Stereo Division of the PSA, which is holding its 1953 annual convention in Los Angeles in August.

**DON MALKAMES, ASC**, east coast cinematographer who photographs the "Man Against Crime" series of TV films in New York, was a Hollywood visitor last month.

**KARL FREUND, ASC**, who shares credit with Desilu Productions for winning an Emmy Award for Best Comedy Show on Television, was presented a certificate commemorating his contribution to show as director of photography.

**JACKSON J. ROSE, ASC**, is readying a new edition of his "American Cinematographer Handbook." New eighth edition should be off the press next month.

**ARCHIE STOUT, ASC**, will share dual "Oscar" awards with Winton Hoch, ASC, in event "The Quiet Man" is voted best in color photography class this

month by Academy of Motion Picture Arts and Sciences. Hoch, who directed the Technicolor photography of the picture, has petitioned the Academy to recognize Stout's contribution to the production as director of 2nd unit photography.

**WILTON HOLM, ASC**, formerly with Cinecolor, is now a representative of DuPont on the east coast.

**NATIONAL MAGAZINES** featured the work of the industry's leading directors of photography in text and pictures last month. Phil Tannura, ASC, and his camera crew were publicized in a feature story in the *Saturday Evening Post*, while more than sixteen ASC members were pictured in a feature story in the March issue of *Photography*.

**LOYAL GRIGGS, ASC**, and Irmin Roberts, ASC, are in India on a photographic assignment for Paramount Studio.

**FREDERICK A. YOUNG, ASC**, British cinematographer, completed the photography of "Mogambo" last month. The Technicolor production, starring Clark Gable and Ava Gardner, was produced by MGM at its London studio and on location in Africa.

(Continued on Page 139)



# ★ ARRIFLEX 35

MODEL II

The ideal 35mm movie camera for TV Newsreel, Industrial, Travel and Scientific Motion Picture Photography.

## FAMOUS ARRIFLEX FEATURES:

- Reflex focusing through taking lens, even when camera is running.
- Bright erect image finder, 6 1/2 x magnification.
- "Follow-focus" without assistant.
- No parallax or other finder problems.
- Full frame focusing and viewing.
- 3-lens turret.
- Quick change geared film magazines (200 and 400 feet). No belts to connect.
- Variable speed motor built into handle.
- Tachometer registering from 0 to 50 frames per second.
- Compact, lightweight.
- Equally adaptable for tripod or handheld filming.
- Easily detachable matte box-filter holder.

# 3-D

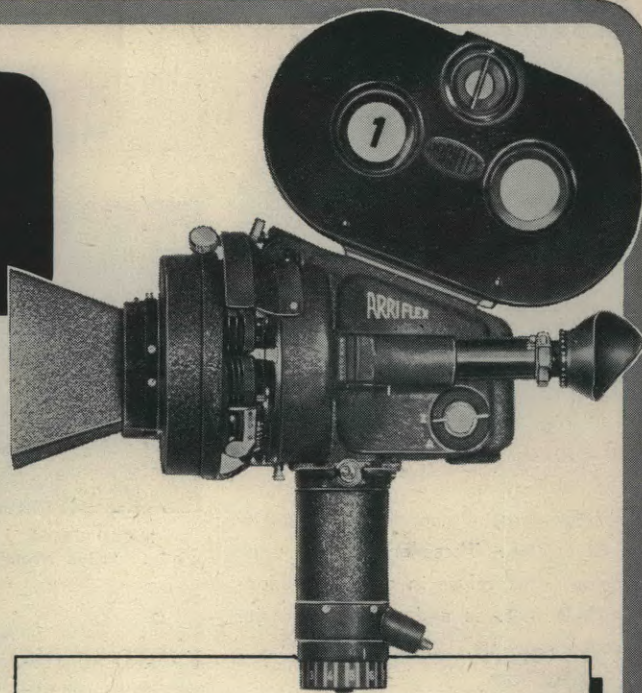
## 3-DIMENSIONAL CINEMATOGRAPHY

*is one of the greatest contributions to the advancement of movie making. Its rapidly growing popularity is sure evidence of its destined success and acceptance wherever movies are at work.*

*No camera is better suited for stereo adaptation than is the Arriflex 35, known everywhere for rock steady pictures . . . every frame in precise register. It is the least expensive camera in the field, the lightest in weight, it easily couples to synchronomotor, and in every other way it is the simplest and most economical way to 3-D movie making.*

Available at leading dealers.

Write for literature and price list.



## COATED LENSES in ARRIFLEX MOUNTS

28mm f/2 Schneider Xenon*	90mm f/3.5 Kilar
50mm f/2 Schneider Xenon*	135mm f/3.8 Kilar
75mm f/2 Schneider Xenon*	150mm f/3.5 Kilar
	300mm f/5.6 Kilar
	400mm f/5.6 Kilar

\*With Follow-Focus Grips.

## ORIGINAL ARRIFLEX ACCESSORIES

LENS EXTENSION TUBE for close-up filming and cinemacrography

HI-HAT for mounting Arriflex 35 on standard tripods

SHOULDER-POD for vibration-free, hand-held filming

BATTERY — 16 Volt, lightweight, non-spill, with carrying case and shoulder strap

BATTERY CHARGER

## THE NEW ★ ARRIFLEX 35 TRIPOD

- Sturdy, rugged and rock steady. Weighs only 19 lbs.
- Large universal ball-joint for leveling.
- Velvet smooth pan and tilt action with separate locks.
- Extra long handle for under-arm control.
- Spirit level.
- Can be used with all professional cameras.
- Leather boot available.



# KLING

SOLE AGENTS

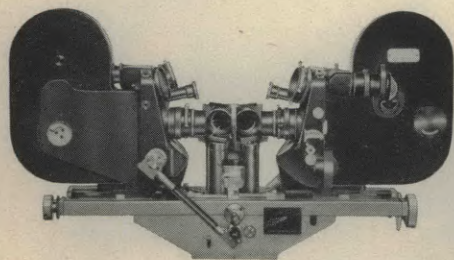
## PHOTO SUPPLY CORPORATION

235 FOURTH AVE., NEW YORK 3, N. Y. • GRamercy 5-1120

WEST COAST OFFICE: 7303 MELROSE AVENUE, HOLLYWOOD 46, CALIFORNIA

• WYOMING 9026





**STEREO**—Another example of Camerette precision and versatility—2 Camerettes mounted for three dimensional pictures by Stereo-Cine Corp. These and similar units have proved themselves in current production of 3-D features and shorts for major Hollywood producers.

**Look at these advantages —**

- Precise, rugged movement
- Reflex viewing
- 200 degree adjustable shutter
- Divergent three lens turret
- Automatic film gate 400' magazines
- Light weight—only 14 pounds with 400' magazine, 3 lenses, and 6/8 v. motor.

These and many other unique features have made the Camerette the inevitable choice for the professional motion picture producer.



patents coutant-mathot

Manufactured by Ets. Cine. Eclair, Paris

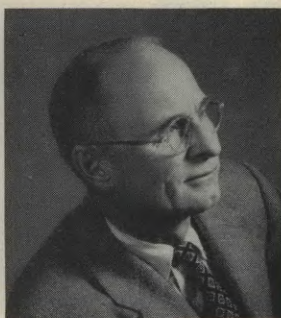
for descriptive brochure  
write U.S. representative

**Benjamin Berg Agency**

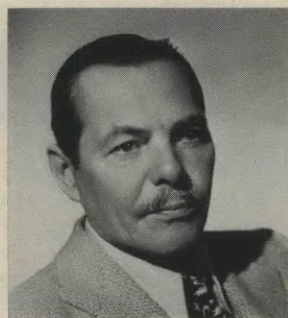
1366 No. Van Ness Ave., Hollywood 28, Calif.

## 1952-53 Cinematography Awards

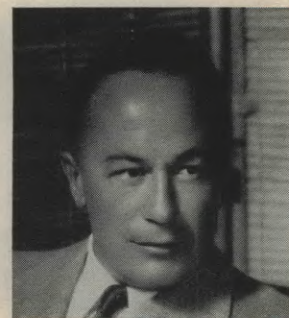
Non-industry award-sponsors cite Crosby, Barnes, Marley and Hoch for outstanding photography.



FLOYD CROSBY, ASC  
"High Noon"



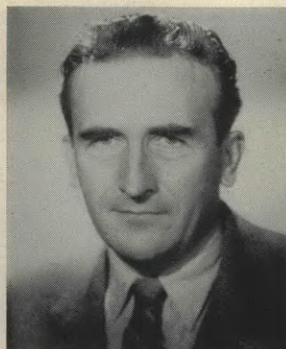
GEORGE BARNES, ASC  
"Greatest Show"



PEV MARLEY, ASC  
"Greatest Show"

FOUR DIRECTORS OF PHOTOGRAPHY, all members of the A.S.C., were cited last month for achievement in photography. The Hollywood Foreign Correspondents Association presented its Golden Globe Awards to Floyd Crosby, ASC, for best black-and-white photography of Stanley Kramer's "High Noon," and to George Barnes, ASC, and J. Peverell Marley, ASC, for the Technicolor photography of Cecil B. DeMille's "The Greatest Show On Earth," cited for "best color photography."

Look magazine, in its annual presentation of awards for achievement in the motion picture industry, honored Winton Hoch, ASC, for the Technicolor photography of Argosy Productions' "The Quiet Man."



WINTON HOCH, ASC  
"The Quiet Man"

Annually, and in advance of the yearly "Oscar" awards of the Academy of Motion Picture Arts and Sciences, several non-industry sponsors single out stars, producers and technical personnel of the Hollywood motion picture studios for outstanding achievement during the preceding year.

Of these awards, perhaps the Golden Globe and the Look awards are the most important to the industry's directors of photography, second in importance only to the Academy's "Oscars."

For Crosby, Barnes and Marley, it is

their first Golden Globe Awards. Frank Planer, ASC, noticeably missing from the Golden Globe roster this year, has won three Globes in a row.

Winton Hoch's Look award is his first. "The Quiet Man," for which he won the award, is also nominated in the color photography class for an Academy Award.

In presenting its 12th annual Achievement Awards, Look magazine cited 18 films as "best Pictures of the year." Contributing to the success of these 18 films was the photography. In the light of this, the respective directors of photography deserve mention here.

The 18 productions honored as "best pictures" by Look are listed below, with the name of the cinematographer credited first:

Irving Glassberg, ASC, "Bend In The River" (U-I); James Wong Howe, ASC, "Come Back Little Sheba" (Par.); Otto Heller, "The Crimson Pirate" (WB); George Barnes, ASC, Pev Marley, ASC, "Greatest Show On Earth" (Par.); Harry Stradling, ASC, "Hans Christian Andersen" (Goldwyn); Charles Lawton, ASC, "The Happy Time" (Kramer-Col.); Floyd Crosby, ASC, "High Noon" (Kramer); Freddie Young, ASC, "Ivanhoe" (MGM); Karl Struss, ASC, "Limelight" (Chaplin); Joseph Walker, ASC, "The Marrying Kind" (Col.); Ossy Morris, "Moulin Rouge" (Romulus); Jos. LaShelle, ASC, "My Cousin Rachel" (Fox); Winton Hoch, ASC, "The Quiet Man" (Argosy); Hal Rosson, ASC, "Singin' In The Rain" (MGM); Leon Shamroy, ASC, "Snows of Kilimanjaro" (Fox); Charles Lang, ASC, "Sudden Fear" (RKO); and Leon Shamroy, ASC, "With A Song In My Heart" (Fox).

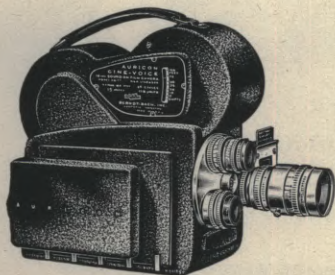
END



# *AURICON brings The GI's home— — on Talking Picture Film!*



NOTE: "Cine-Voice" Camera is being operated from 6 volt "Jeep" battery, using Auricon PS-14 Power Converter.



## **AURICON CINE-VOICE 16 mm CAMERA...**

\$695.00 (and up), with a 30-day money-back guarantee. You must be satisfied. Write today for free illustrated "Cine-Voice" Folder describing this newest 16 mm optical sound-on-film Camera.



## ***AURICON "Cine-Voice" Sound-On-Film 16mm Camera...Shoots Talking Pictures for release on Television!***

The parents of American GI's overseas are today visiting with their sons through the medium of "Talking-Pictures" shown on Television. The men are interviewed and filmed by the major News Services and Broadcasting Networks operating from military outposts all over the world. Auricon Equipment is providing high-fidelity, trouble-free operation under the most rigorous conditions of climate and travel. At home or overseas, Auricon Cameras are proving over and over again, that they can "take it!"

Auricon 16 mm Sound-On-Film Cameras are ideal working tools for the production of Television Newsreels, Film Commercials, Dramatic Inserts and local Candid-Camera programming. Write for complete Auricon Catalog.

# **AURICON**

## **BERNDT-BACH, INC.**

7381 BEVERLY BLVD., LOS ANGELES 36, CALIF.





# SEEING IS BELIEVING!

## THE FIRST ARC

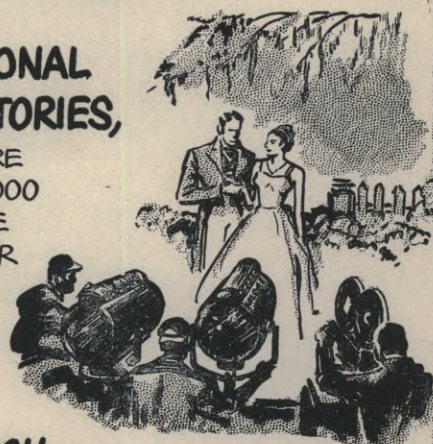
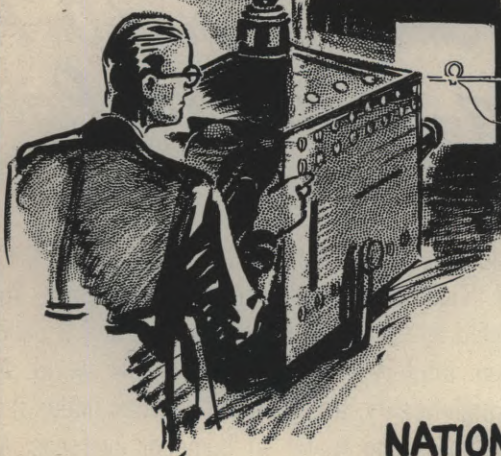
WAS STRUCK OVER 150 YEARS AGO  
BY FAMED ENGLISH SCIENTIST,  
**SIR HUMPHRY DAVY,**  
USING TWO CRUDE CHARCOAL RODS  
AND A PRIMARY BATTERY.



**TODAY,**

### IN NATIONAL CARBON'S LABORATORIES,

EXPERIMENTAL CARBONS ARE  
OPERATED AT MORE THAN 2000  
FOOTCANDLES PER SQUARE  
MILLIMETER...MUCH HIGHER  
THAN THE APPARENT  
BRIGHTNESS  
OF THE SUN!



**NATIONAL CARBON RESEARCH** PAYS OFF IN THE DEEP  
SET PENETRATION, BROAD COVERAGE, SHARP SHADOWS AND RELATIVE  
COOLNESS THAT RESULT FROM THE HIGH EFFICIENCY AND SMALL  
SOURCE SIZE OF "NATIONAL" CARBON ARCS.



**THE "NATIONAL" CARBON ARC... NOTHING BRIGHTER UNDER THE SUN**

The term "National" is a registered trade-mark of Union Carbide and Carbon Corporation

### NATIONAL CARBON COMPANY

A Division of Union Carbide and Carbon Corporation, 30 East 42nd Street, New York 17, New York  
District Sales Offices: Atlanta, Chicago, Dallas, Kansas City, New York, Pittsburgh, San Francisco  
IN CANADA: National Carbon Limited, Montreal, Toronto, Winnipeg

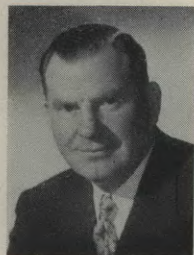


# Practical Filming Techniques For Three-dimension And Wide-screen Motion Pictures

By CHARLES G. CLARKE, A. S. C.

*President, American Society of Cinematographers*

**A**LTHOUGH VARIOUS METHODS for wide screen and three-dimensional motion pictures have been tried out on an experimental basis since the inception of the cinema, no concerted effort has been attempted by the industry to introduce this advancement for general exhibition until now. As progress from



Chas. G. Clarke

black-and-white to color photography followed a slow process of development, the next step towards reality on the screen — pictures with natural depth — has likewise long been delayed. This has been partly due to a reluctance to attempt something new so long as the old was acceptable, and partly because of the radical adjustments necessary on the part of the spectator as well as the producer to make these new techniques possible.

It is unnecessary here to go into the theory of binocular vision and depth perception. We all know that every person having normal vision sees depth because each eye sees a scene from a slightly different angle than the other. This angle however is all important. With the average person the eye separation or interocular distance is  $2\frac{1}{2}$  inches or about 64 millimeters. For natural reproduction by photographic means it is therefore imperative that the lenses of 3-D cameras making the left and right hand pictures be spaced no more or less than this normal separation. Any violation of this rule of nature will result in false perspective and unnatural results on the screen.

True, in certain special effects, the interocular separation will have to be varied; but for normal scenes the camera lenses should be properly spaced. Unfortunately, there have been camera installations which have violated this rule. The 1000-foot film magazine has forced the cameras apart when they have been set up to face each other with reflecting mirrors between them. When used in this way with wide angle lenses, elongation of the subjects and over-drawn depth perspective result. The cameras must be accurately mounted so that each one records an identical image

as to size, alignment and synchronization of picture to the other.

As the human eyes constantly "toe in" or converge as they look at various objects in different planes of depth, so must the cameras be equipped to converge on the principal object of interest. Presuming that the cameras to be used fulfill these basic requirements, what are some of the practical filming techniques that must be observed? As literature on this subject is almost nonexistent, perhaps the observations of some years of my experience in this field will be of assistance.

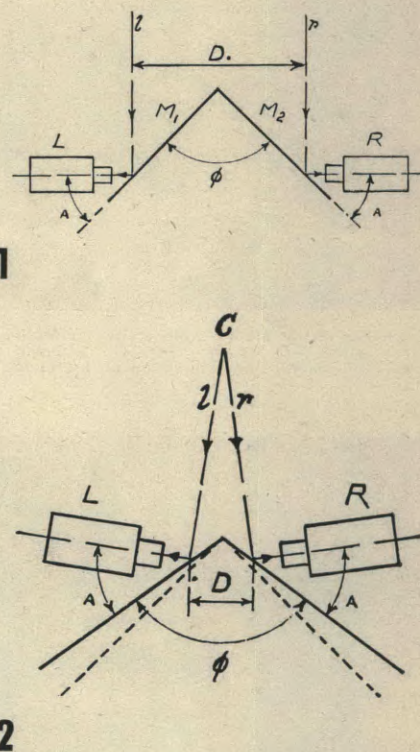
While there are no great mysteries connected with three-dimension photography, basic rules do apply, and to a certain extent we must learn to undo some of the things we have been doing in flat photography all these years in an attempt to simulate third dimension. In the past we have been using very wide angle lenses, backlighting, and silhouette foreground objects to give the illusion of depth to planar pictures. We have been forcing and even over-drawing perspective with the 25mm lens. Common sense therefore dictates that with true three-dimension filming these illusions are not only unnecessary but can be detrimental. Except for special effects, the normal long shot in 3-D is best reproduced by no shorter focal length lens than the 40mm. The 50mm is ideal for medium shots and the three-inch lens is excellent for closeups.

For long shots some tolerance is allowable in excess interocular spacing, but for closeups, even with the three-inch lens, the lens spacing must not exceed  $2\frac{1}{2}$  inches for natural reproduction.

Some readers may recall that in the very early days of film making it was a hard and fast rule that the feet of the actor must always be shown. Audiences had to see what the characters were standing on! This seems ridiculous now that we are educated to seeing closeups with no visible means of support; but it took many years to get audiences adjusted to this technique of the cinema. Likewise, it will take some time before audiences will accept persons or objects standing out in front of the screen in 3-D films, where in reality they belong. In time this will come about of course, but for the present it is probably better

not to include objects too close to the foreground or ahead of convergence. Branches of trees, foreground lamps and such had best be left out or moved back into the scene for the time being. Likewise spectators are not yet accustomed to seeing objects out over the audience, so the projectors will be converged from infinity or "toed-in" to a middle foreground in order to push back the actors to the plane of the screen. Distant objects behind them will therefore appear "through the window" or in back of the screen. For this reason the screen becomes a window frame, and the composition of the scenes must be arranged so that the actors are completely within

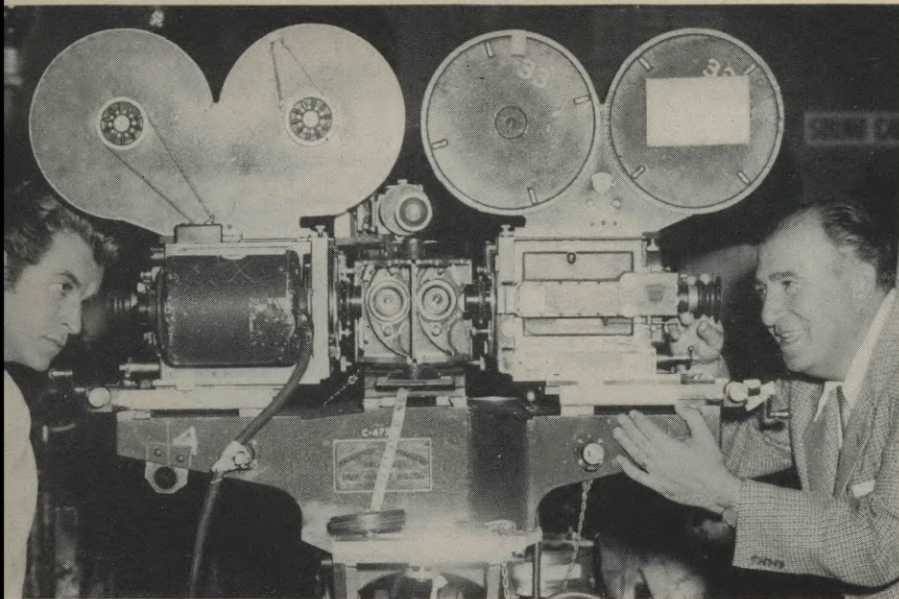
(Continued on Page 128)



ABOVE DIAGRAMS show method of setting stereoscopic apparatus of a typical 3-D motion picture camera for two types of shots: (1) distant, and (2) closeup. For sake of clarity, the various elements have not been held to proportionate size.  $M_1$  and  $M_2$  are the adjustable angular front-surfaced mirrors which reflect scene or image into lenses of the cameras L and R.  $D$  is the stereoscopic base dimension—variable for each type shot. To vary the lens interaxial, the cameras are moved laterally toward or away from the mirrors. Changing angle of mirrors, as in (2), alters the convergence, and in this method the cameras may also be pivoted so that the angles  $A$  between cameras and mirrors are always retained at  $45^\circ$ . Ideal screen results in 3-D depends primarily on the proper setting of the interaxial distance (also called the interocular), the convergence, and correct focus.



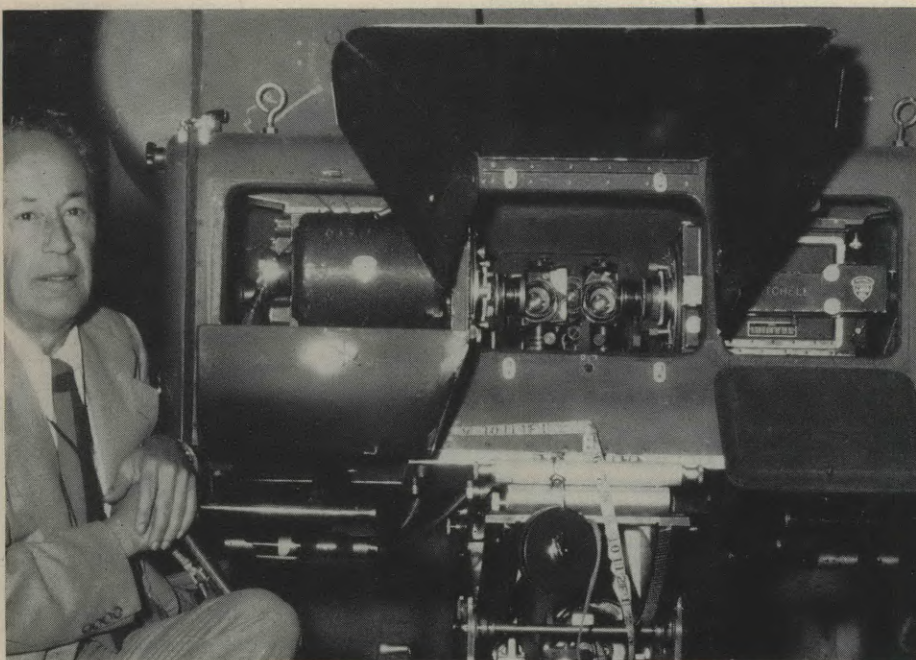
# All Hollywood Studios



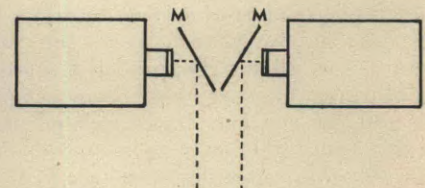
**PARAMOUNT**—This studio's 3-D camera is conventional type with two Mitchell 35mm cameras mounted in opposed position. Lenses record image reflected on two 45° mirrors, as shown above. An improved camera providing narrower interocular is being developed. Peering through finders are actor Fernando Lamas (L) and director Edward Ludwig.



**COLUMBIA**—While studio engineers are perfecting their own 3-D camera, studio's initial 3-D feature, "Fort Ti," is being filmed with a Natural-Vision 3-D camera, under direction of Lester White, ASC.



**WARNER BROTHERS**—This studio's initial 3-D film, "House of Wax," is being shot with Natural-Vision cameras by Pev. Marley, ASC. Meanwhile, studio engineers are progressing with Warner's own 3-D camera, soon to go into action. Natural-Vision's rig comprises two Mitchells mounted in opposed position, has variable twin mirrors.



2 Mirrors

**DIAGRAMS SHOW** the three prevailing systems of 3-D motion picture cameras, now in general use in Hollywood: (1) two cameras mounted opposed, record-images from two variable mirrors (M); (2) two cameras mounted at right angles, with one recording image reflected in mirror and other recording scene direct; and (3) twin cameras,



# Shooting 3-D Films

**A.S.C. Survey shows all majors in quick swing to stereo production. Most of them have developed their own 3-D cameras; are training cameramen to photograph feature films in the new stereo medium.**

By ARTHUR GAVIN

cameras on February 27th, with Floyd Crosby, ASC, directing the photography. A third stereo production, "Renegade Canyon," gets under way on March 10th.

Meantime, the studio is engineering its own 3-D camera equipment under the guidance of Gerald Rackett, company vice-president and technical head. Details of the equipment so far is a closely guarded secret.

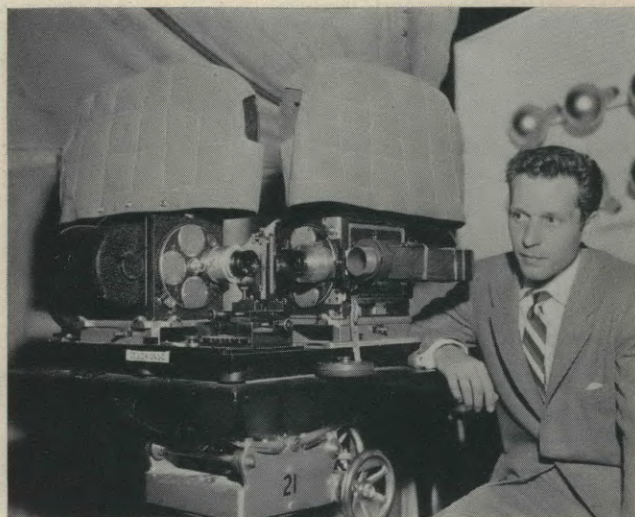
The Natural-Vision 3-D camera, which was described at length in *American Cinematographer* for August, 1952, ("Hollywood Launches 3-D Film Production," page 336) comprises two Mitchell 35mm cameras mounted on a stereo base having precision adjustments for parallax, convergence, etc. The equipment is completely blimped, a feature not yet incorporated successfully in cameras developed by some of the studios. It is extremely flexible, affording accurate alignment of each camera through individual finders, in addition to the central finder positioned just behind the adjustable reflecting mirrors.

**Metro-Goldwyn-Mayer**—This studio engineered its own 3-D camera, utilizing two Mitchell 35mm cameras mounted at right angles, (See accompanying photo.) and

(Continued on Next Page)

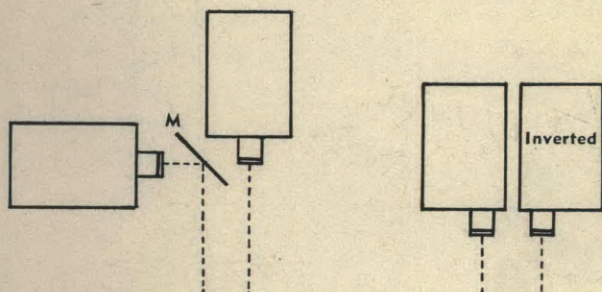


STEREOCINE'S 3-D camera comprises 2 Camerettes mounted opposed, shooting through mirrors. Sol Lesser used this camera for his initial 3-D film. Pictured (L to R) are developers of camera: R. G. Wolff, head of StereoCine Corp., and Henry Ludwin and A. S. Bodrero.



MGM's 3-D camera design follows radical departure in that two Mitchell 35's are mounted at right angles. Only one mirror is used. Because of several innovations, extreme closeups in perfect rendition are claimed for the camera, which is being inspected here by MGM executive, Arthur Loew, Jr.

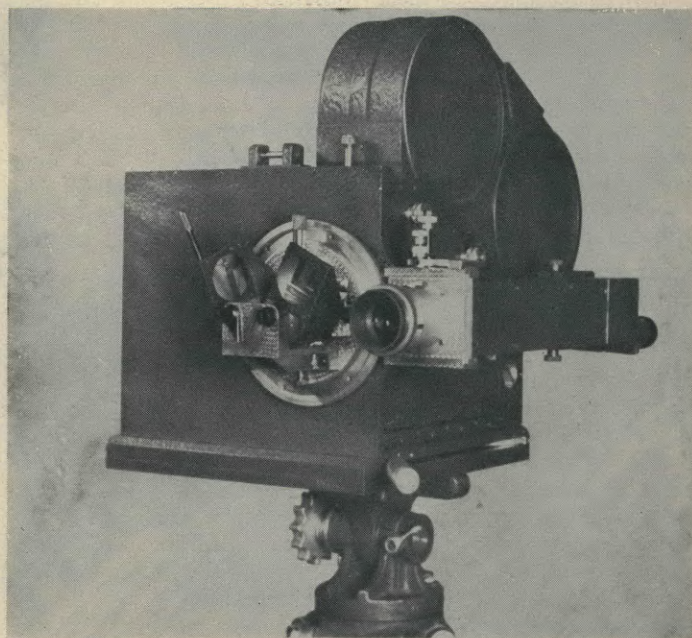
RKO has acquired use of the Norling 3-D camera, said to be the ideal stereo camera in that it was constructed especially for 3-D, has many unusual features. Studio began production on its initial 3-D feature with this camera, shooting footage of New Orleans Mardi Gras, under direction of the inventor, J. A. Norling.



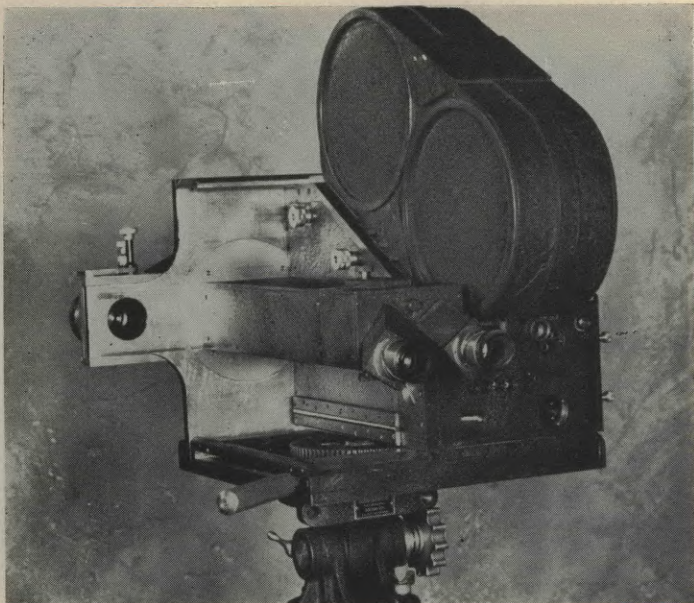
1 Mirror

No Mirrors

mounted side by side, with one camera inverted to permit closest possible interocular distance (distance between lenses.) This system requires no mirrors. Convergence, parallax, and variable interocular adjustments are provided through various systems of adjusting mirrors, angle of cameras, etc.







REAR VIEW of the Norling 3-D camera pictured on preceding page. An important feature is the binocular viewfinder which permits lining up both camera lenses while viewing scene in three-dimension. Lever extending from base effects quick rack-over.

began its first 3-D production, "Arena" in Ansco Color the first week in February with Paul Vogel, ASC, directing the photography. Other 3-D productions are in the process of being scheduled, but the studio is moving cautiously in view of its plan also to go into the CinemaScope system of wide-screen film making, developed by 20th Century-Fox.

MGM's system is tentatively tradenamed the "Tri-Dee" process. Its stereo camera is the development of John Arnold, ASC, studio's executive director of photography, and is said to incorporate a number of exclusive features patented by Arnold. Despite this, and unlike other studios, MGM disdained any pretense of secrecy in its developments, was one of the first studios to have its own 3-D camera in use on a feature production. Meantime, company is building eight additional 3-D camera units, including two for its London studios—indicating that MGM is planning a substantial schedule of 3-D productions in the future.

One of the important features claimed for MGM's stereo camera is its ability to make super-closeups without any distortion. One camera shoots the scene directly, while the second, set at right angle, picks up the scene reflected by a variable 45° mirror. The negative from this camera must be reversed in the printing. According to Arnold, mounting the cameras at right angles permits an interocular adjustment smaller than the conventional or "basic" 2½ inches, which accounts for the camera's ability to record undistorted "tight" closeups as well as precisely parallaxed and converged medium and long shots.

**Paramount**—This studio was the first major to get into 3-D film production following the general swing to the new medium. Studio had developed a stereo camera years before, took it out of storage and started shooting "Sangaree," early in February, using Eastman Type B color negative, with Lionel Lindon, ASC, directing the photography. Paramount's system, which is tradenamed Paravision, comprises two Mitchell 35mm cameras mounted in opposed position on a stereo base having micrometer adjustments for variable interocular and convergence. Both cameras carry standard 1000-ft. film magazines. The viewfinder is mounted just above the variable mirrors. Reports are that studio engineers are presently constructing a new model camera which will mount the film magazines at an angle in order to permit closer

positioning of lenses for narrower interocular spacing, so essential for closeups.

Paramount also leads all other major studios in number of 3-D pictures in the planning stage—five features in all at this writing.

**RKO-Radio**—Early last month, RKO acquired the original Norling 3-D camera, considered by many the ideal stereo camera, inasmuch as it was engineered especially for stereoscopic motion pictures, and was not "built up" from conventional 35mm cameras. Designed and built by J. A. Norling, of Loucks & Norling, New York, the camera incorporates many unique features, not the least of which is the prism arrangement for providing the variable interocular and divergence necessary for 3-D filming. Camera uses two films, fed from twin magazines, and has a binocular viewfinder which enables operator to see the scene in 3-dimension when the camera is racked-over to viewing position.

While studio has not yet begun production of a feature in 3-D, it sent its camera and crew, supervised by Mr. Norling, to New Orleans, Louisiana, to record scenes of the annual Mardi Gras for use in a forthcoming stereo feature.

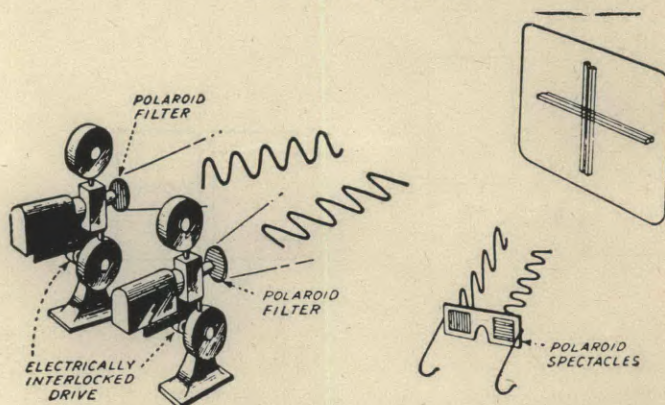
Meantime, company reportedly is looking over 3-D cameras of other studios and of independents, with object of acquiring several for use in future RKO 3-D productions.

**20th Century-Fox**—Although this studio's major activity reportedly is concentrated in its CinemaScope wide-screen process, it also is entering 3-D film production. Sol Halprin, studio's executive director of photography, has developed a 3-D camera, details of which thus far have been kept under cover. Process is tradenamed Stereoscopic. Initial 3-D feature, "Inferno," in color, is being photographed by Lucien Ballard, ASC. Other features in 3-D are in the planning stage.

**Universal-International**—This studio has been the most secretive of all regarding its special 3-D camera as well as company's initial 3-D production, "It Came From Outer Space," being photographed in black-and-white by Cliff Stine, ASC. The stereo camera developed by studio engineers reportedly employs two Mitchell cameras mounted side by side, with one camera inverted to provide close setting of lenses in order to gain a minimum interocular distance. The camera is said to employ no mirrors, has selsyn motor control of focus, and boasts the advantage of providing a negative that makes possible daily prints with a minimum of delay. It is further reported that two different 3-D cameras are employed on the set—one for medium and long shots, the other for closeups.

**Warner Brothers**—This studio is employing one of the Natural Vision 3-D cameras in photographing its initial stereo feature, "House of Wax," being filmed in Warner-Color by

(Continued on Page 134)



VISUALIZATION of the 3-D viewing system conventional for films shot with twin stereo cameras. Left and right images are projected through Polaroid filters onto a metallic screen, which is essential for exhibition of Polaroid 3-D pictures. Spectators must wear special Polaroid viewing glasses in order to observe the stereoscopic illusion on the screen.



# EASTMAN

PROFESSIONAL  
MOTION PICTURE  
FILMS

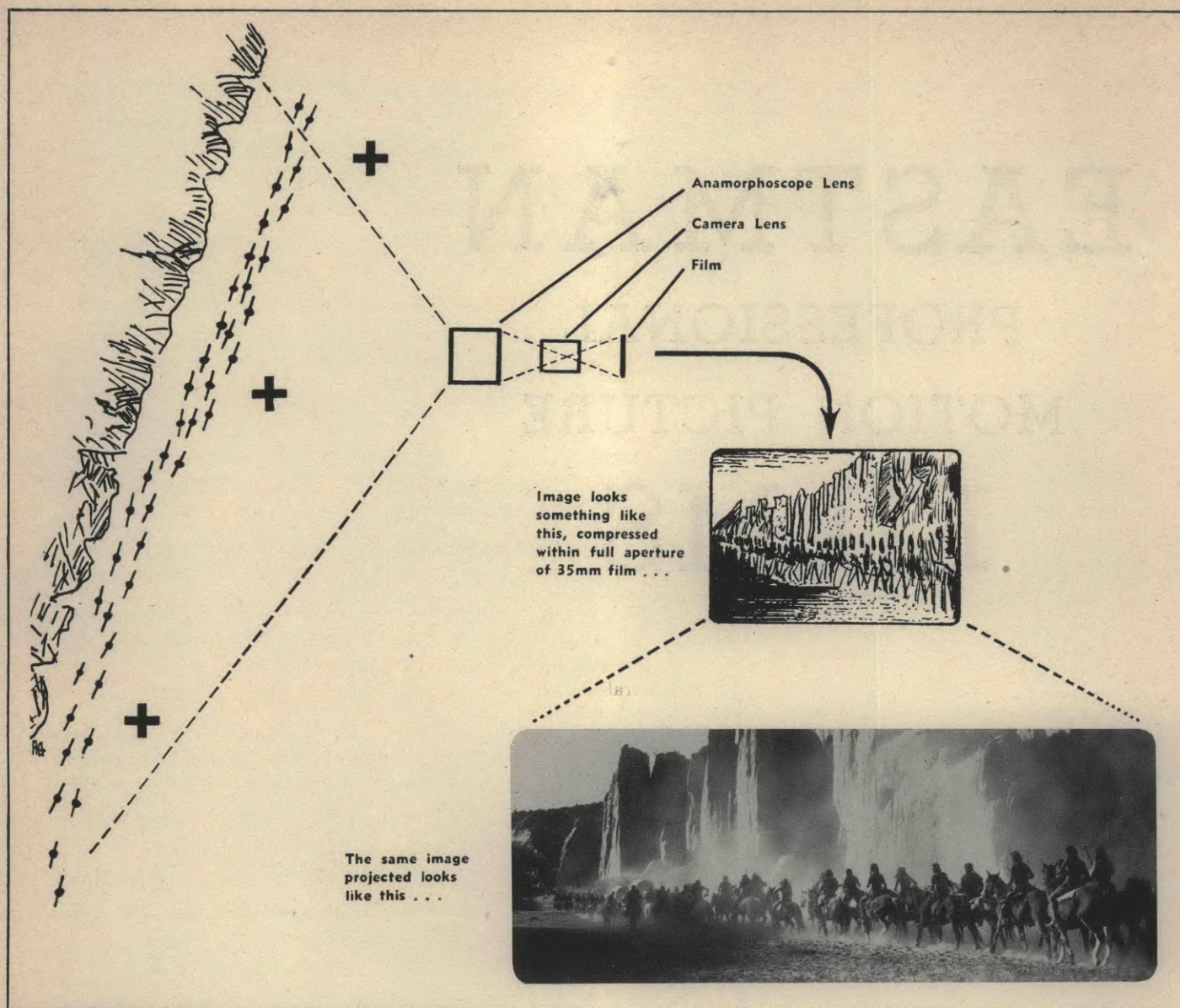
**W. J. GERMAN, INC.**

Fort Lee

Chicago

Hollywood





**HOW CINEMASCOPE WORKS**—Panoramic scene of marching Indians at left is photographed with an anamorphoscope wide-view lens in front of camera lens. This compresses image within the full aperture of 35mm film. In projection, another anamorphoscope placed before projector lens

expands compressed image to full scale so it appears on screen as shown above, lower right. Three microphones (X) placed strategically to cover the full range of the set or scene record three separate tracks to provide stereophonic sound, an important factor in CinemaScope system.

## CinemaScope--What It Is; How It Works

**The only added equipment needed in CinemaScope filming is the special lens attached to a regulation camera plus two extra microphones, which pick up sound for the stereophonic sound system.**

having compensating distortions.

CinemaScope is *not* stereoscopic movies—not the same as the 3-D films also causing a flurry in Hollywood. CinemaScope films do not require the use of viewing spectacles, do not require special dual motion picture cameras and dual projectors. But the result on the screen, which does present an *illusion* of three-dimension pictures, is said by many to be superior to 3-D films.

Like the Cinerama process, CinemaScope pictures are panoramic and have stereophonic sound. The wide screen

**A** UNIQUE LENS which restores to its proper proportions an image previously distorted, makes possible the compression onto 35mm film of wide-angle panoramic scenes, and is the basis of the new CinemaScope system of wide-screen motion pictures developed in

Hollywood by 20th Century-Fox studios.

When the film is projected through a companion lens the distorted image assumes its former normal dimension, just as a trick mirror in a carnival fun house would straighten out its distorted reflections if placed before a mirror



used for CinemaScope is a solid screen having great reflectance, and is curved slightly but not to the extent of the Cinerama screen.

CinemaScope is a simple, inexpensive process applicable to either color or black-and-white films, which simulates three-dimension to the extent that objects and actors seem to be part of the audience, while its stereophonic sound imparts additional life-like quality as it moves with the actors across the screen.

From its panoramic screen, two and a half times as large as ordinary screens, actors seem to walk into the audience, ships appear to sail into the first rows, off-screen actors sound as though they are speaking from the wings.

CinemaScope is a simplified improvement of an anamorphoscope lens (which he called a Hypergonar) developed by Frenchman Henri Chretien with whom 20th Century-Fox recently closed arrangements for its use and other patented improvements.

(Ed. Note: Webster's dictionary defines anamorphoscope as: "A cylindrical mirror or lens which restores to its normal proportions an image distorted by anamorphosis.")

The anamorphoscope is fitted before the regular camera lens and functions to gather up a wide field of view and funnel it, compressed, through the camera lens, leaving a distorted image of the scene on the film. In projection, a similar anamorphoscope placed before the projector lens unscrambles the image so that it reaches the screen exactly as filmed and completely without distortion.

In describing the Hypergonar anamorphoscope lens, Chretien said: "The Hypergonars which we have built are of two types: for photography, and for



**HOW CLOSEUPS WILL BE COMPOSED** in CinemaScope wide-screen photography. Tight closeups will probably be avoided in favor of head-and-shoulders composition, with the figure or figures placed a little to the left or right of center of the frame, as in this sketch of a scene for "The Robe," 20th-Century-Fox's first CinemaScope production.

projection. They differ only in their dimensions and their mountings."

From the optical point of view, they consist of two separately achromatized systems: a converging system consisting of two lenses, cemented together, and a diverging system consisting of three lenses, cemented together.

In photography, focusing of the anamorphoscope is accomplished in accordance with the distance of the subject, by means of a spiral-shaped shaft and the help of a distance calibration. This does not alter in the least bit focusing of the camera lens.

In projection, Chretien explains, the Hypergonar is adjusted once and for all in accordance with the distance of the screen, by means of a helical rack and pinion. The interposition of the Hypergonar does not modify the definition on the screen.

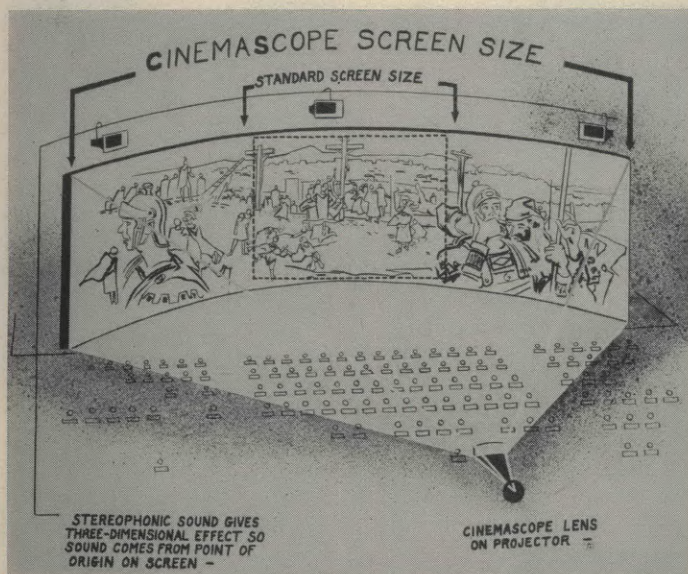
The loss of light occasioned by the introduction of the anamorphic attachments is insignificant, the inventor points out, because the consecutive inter-

position of only two supplementary lenses, i.e., the two Hypergonar units, consists of cemented lenses. In addition, the exterior surfaces of the elements in each system are treated with anti-reflection coating. In projection, the screen brightness is reduced proportionately to the enlargement of the anamorphic attachment, since there is a larger screen area to light, and not in proportion to its square (as would be the case where the image were enlarged in all directions).

CinemaScope requires only one camera for filming and one machine for projection on the screen. It utilizes the same cameras and projectors now standard in all studios. And because the anamorphoscope lenses can be adapted to all makes of 35mm cameras, 20th Century-Fox expects to make the CinemaScope system available to all motion picture studios.

CinemaScope poses few problems for the director of photography. Use of the

(Continued on Page 131)

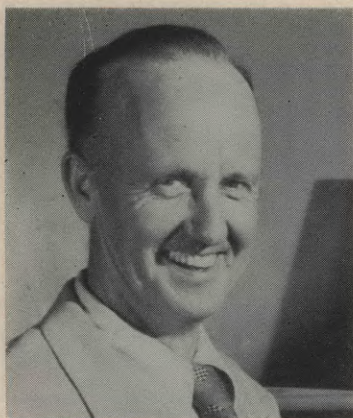


**PROJECTION OF CINEMASCOPE** movies requires but one projector. Screen is curved slightly and fills entire stage proscenium. Three speakers—one in center and one at either side of screen (i.e., behind it) reproduce the stereophonic sound track, lending added naturalness and dimension to CinemaScope movies.



**ONE OF THOSE** most instrumental in the perfection of Twentieth Century-Fox's CinemaScope process is Sol Halprin, ASC (center) studio's executive director of photography. Assisting him were (l to r) Lorin Grignon, sound engineer; Wm. Weisheit, chief projectionist; Grover Laube, camera engineer; and Carl Faulkner, sound department.





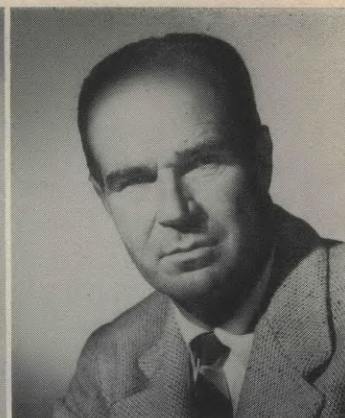
ROBERT L. SURTEES, ASC,  
"The Bad And The Beautiful"



RUSSELL HARLAN, ASC,  
"The Big Sky"



JOSEPH LaSHELLE, ASC,  
"My Cousin Rachel"



CHARLES B. LANG, JR., ASC,  
"Sudden Fear"



VIRGIL MILLER, ASC,  
"Navajo"



HARRY STRADLING, ASC,  
"Hans Christian Andersen"



GEORGE FOLSEY, ASC,  
"Million Dollar Mermaid"



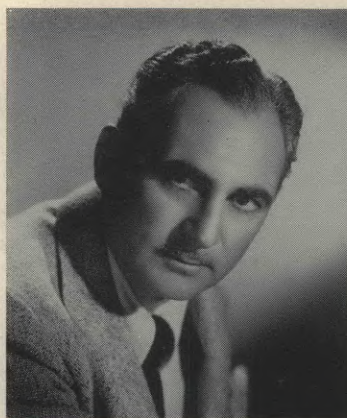
WINTON HOCH, ASC,  
"The Quiet Man"

## Nominees For 1952 Academy Awards

Ten A.S.C. directors of photography nominated for achievement awards for year's best camerawork.

By FRED W. JACKMAN, A.S.C.

TEN DIRECTORS OF PHOTOGRAPHY are in the race this year to receive the gold "Oscars" for photographic achievement to be presented this month in Hollywood by the Academy of Motion Picture Arts and Sciences. Of these, nine are from Hollywood and one from London, England. Of the twenty film productions mentioned here last month as having been selected by Academy members as candidate entries for photographic awards, five black-and-white and five color productions have been chosen in the nominations balloting.



LEON SHAMROY, ASC,  
"The Snows Of Kilimanjaro"



FREDERICK A. YOUNG, ASC,  
"Ivanhoe"

While it is the productions themselves that are voted upon by the Academy, it is the directors of photography to whom the awards are presented the evening "Oscars" are handed out at the Pantages theatre in Hollywood in gala presentation ceremonies.

The ten productions nominated for photographic achievement awards and the cinematographers who photographed them are as follows:

(Continued on Page 126)





Photographing the celebrated Columbus Boychoir and Founder-Director Huffman in action, with the Maurer "16."

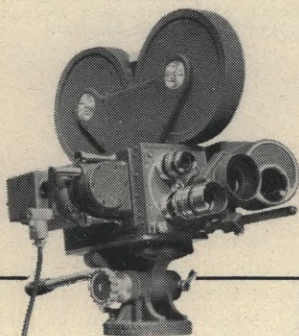
From Maine to Texas



## ...MUSIC STRANGELY SWEET

A glorious twentieth century American cultural accomplishment is the founding, training and development of the Columbus Boychoir. Singing to packed houses in America's finest concert halls, and in hundreds of cities and towns throughout the land, "America's Singing Boys" are bringing the joy of music to millions.

"Movies, records and radio have brought our story to the public thousands and thousands of times," says Founder-Director Herbert Huffman, "Now we want a record of our own, so we bought the finest camera we could find, the Maurer '16'."



**THE MAURER 16MM.**, designed specifically for professional use, equipped with precision high-power focusing and view-finder. Standard equipment includes: 235° dissolving shutter, automatic fade control, view finder, sunshade and filter holder, one 400-foot gear-driven film magazine, a 60-cycle 115-volt synchronous motor, one 8-frame handcrank, power cable and a lightweight carrying case.

**J. A. MAURER, inc.**

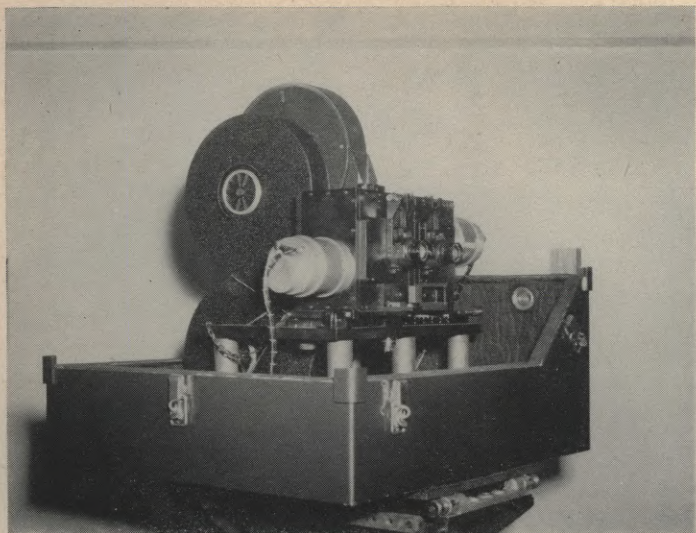
37-01 31st Street, Long Island City 1, New York  
1107 South Robertson Blvd., Los Angeles 35, California

Cable Address: JAMAURER

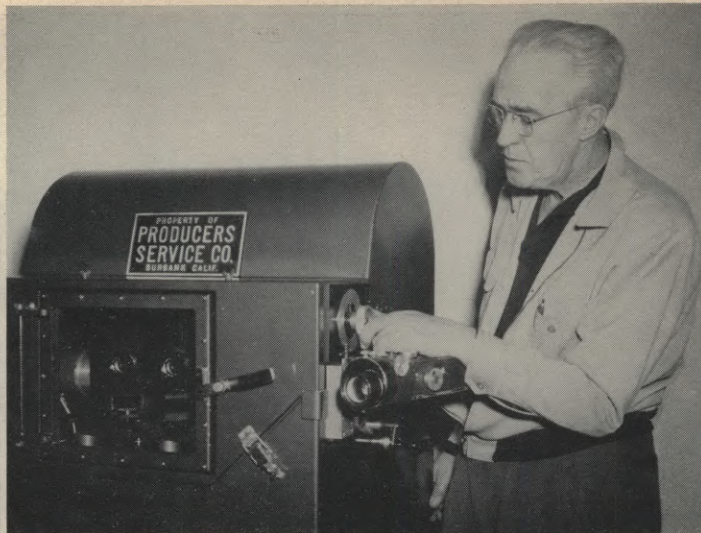
**16mm  
maurer**

**maurer** means *finer* motion pictures!

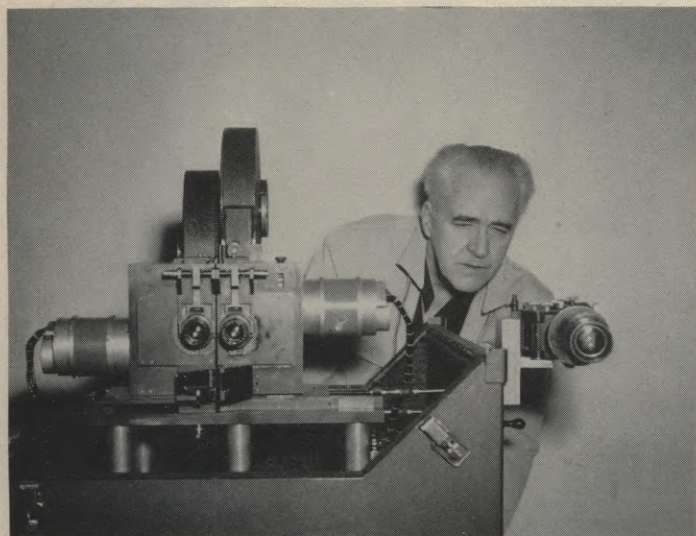




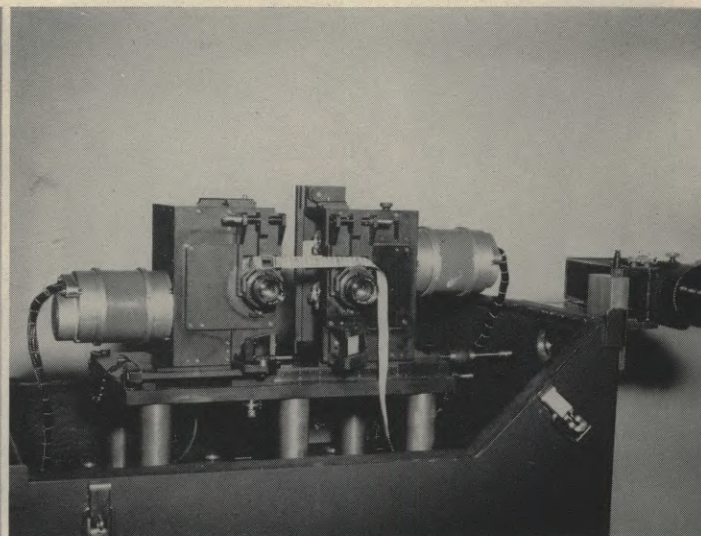
PRODUCERS SERVICE CO.'s 3-D motion picture camera was specially engineered for 3-D photography, is extremely compact and light in weight. Side view shows twin film magazines, lower section of blimp.



FULLY BLIMPED camera, showing external controls for focus, and the Mitchell-type finder. Beside camera is cinematographer-technician Gordon Pollock, ASC, who collaborated in designing the camera.



RANGE of camera's interaxial is illustrated in photos above and at right. Interaxial is changed by moving cameras laterally. Here cameras are shown at minimum position, giving an interaxial of 1.9 inches.



CAMERAS adjusted to extreme interaxial of 4.5 inches. Here film magazines have been removed. Shafts extending through blimp at right control interaxial and convergence of the cameras.

## Producers Service's 3-D Camera

**New professional stereo camera has no mirrors, records R and L images on separate negatives that require no reversals or optical correction.**

**F**OR COMPLETELY SATISFACTORY stereoscopic motion pictures having the usual range of long, medium and close-up shots, the ability to vary the interaxial distance between lenses of 2-camera stereo photographic systems is essential. While most all cameras presently in use today provide for this, not all

have the ability to go below the established norm of  $2\frac{1}{2}$  inches, which is necessary in order to photograph scenes and subjects at close range completely free of eye-straining distortion.

This is because in most cases 3-D camera equipment has been built by utilizing two conventional motion pic-

ture cameras which, because of certain physical characteristics, do not permit adjusting the lenses closer than 2 or  $2\frac{1}{2}$  inches. Obviously, this will be corrected in time, chiefly in the design and construction of cameras especially for stereoscopic motion pictures.

One of the first such cameras is that engineered by Producers Service Co., Burbank, Calif., well-known for having developed some of the most important equipment now in use in motion picture studios. To date, both theoretical analysis and experience have indicated a need of a wide flexibility in the interaxial and convergence variables of 3-D cameras, and especially of a precision of adjustment and film registration equal to that which must be attained in 3-strip

*(Continued on Page 130)*



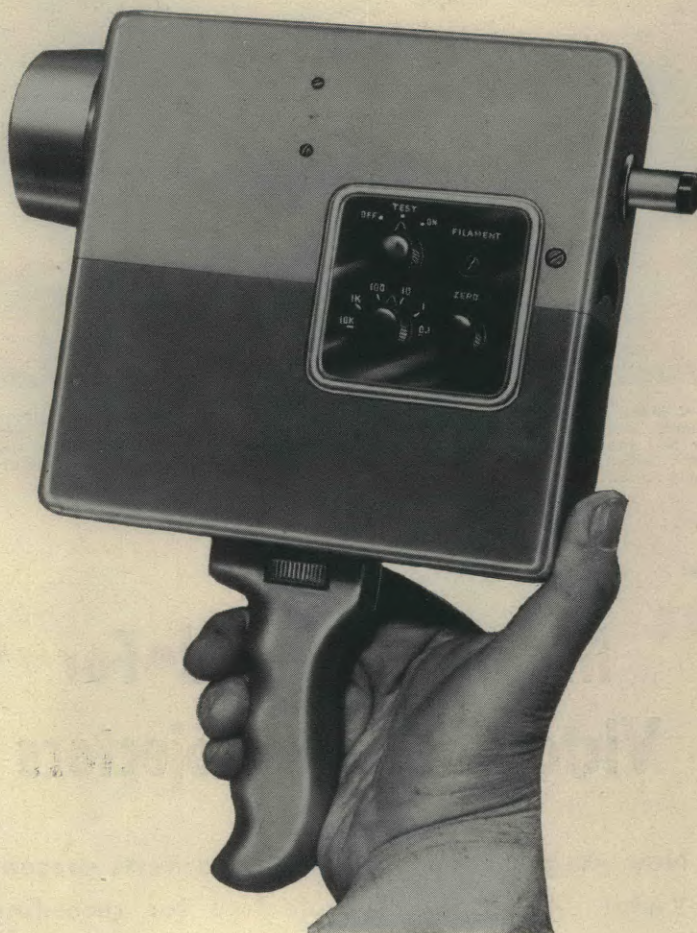


# Photo Research Corp. helps the **FILM INDUSTRY...**

*The*  
**SPECTRA**  
**BRIGHTNESS**  
**SPOT METER**

*for*  
**Measuring**  
**METALLIC SCREEN**  
**Brightness**  
**For 3-D Projection**

•  
**ESSENTIAL ALSO FOR —**  
**Motion Picture Set Lighting**  
**Television Lighting**  
**Illumination Engineers**



The new Spectra Brightness Spot Meter is designed to measure the brightness of a very small area at any distance from four feet to infinity, through the use of a vacuum photocell, amplifier and microammeter. It is therefore, completely independent of the variable sensitivity of the observer's eye and requires no matching of brightness. Any user will obtain the same reading of a given area.

*For more complete information write to*

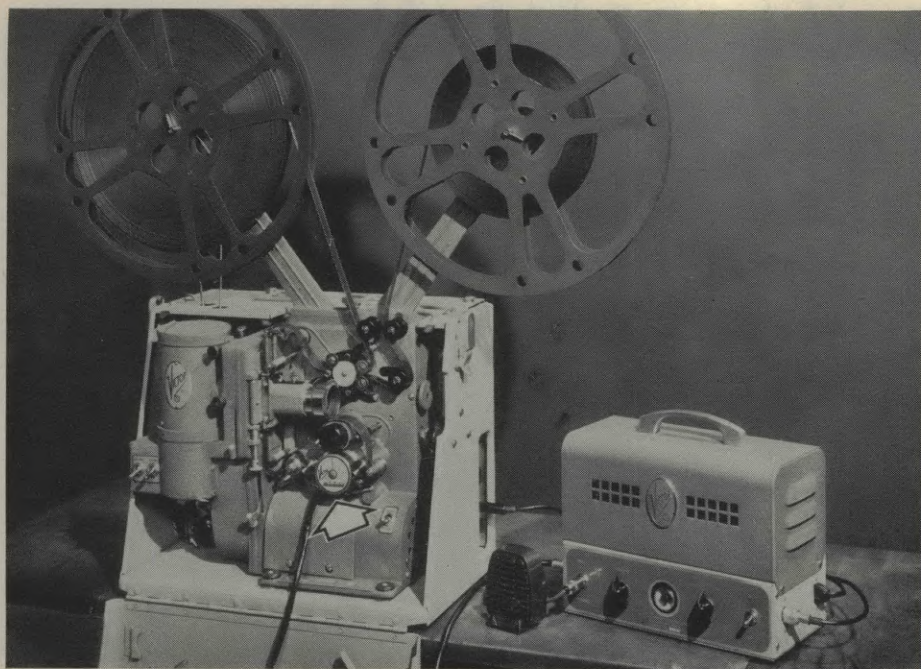


**PHOTO RESEARCH CORP.** KARL FREUND, President

127 West Alameda Ave. • Burbank, California

Telephone: CHarleston 0-8145





THE NEW MAGNESOUND attachment converts present Victor 16mm sound projectors to magnetic sound. Conversion is quick and simple. The regular optical sound drum is removed from projector and the Magnesound drum (arrow) inserted in its place. Magnesound amplifier and microphone, which complete the unit, are shown at right. There is no impairment of projector; it is readily re-converted to optical sound.

## Magnetic Sound For Victor S.O.F. Projectors

**New Magnesound attachment converts present  
Victor 16mm sound projectors for recording  
and playback of magnetic sound.**

By JOHN FORBES

**T**HE ADVENT OF MAGNETIC SOUND for 16mm films has resulted in the recent introduction of new, combination 16mm magnetic recorder-projectors, which enable anyone to record and play back sound on 16mm films without the need of costly laboratory processing of the sound track. However, it has remained for Victor Animatograph Corporation to bring out an attachment which enables any owner of a Victor 16mm sound projector to convert it for recording and playback of magnetic sound, at a cost way below that of a new magnetic recorder-projector.

The Victor attachment, tradenamed

Magnesound, sells at present for \$199.45 complete with microphone and carrying case, which is considerably lower than the price presently asked for the new magnetic recorder-projectors. It records and reproduces both voice and music on 16mm films stripped with magnetic sound tracks. The sound can be recorded, erased and rerecorded as desired, as is common with most magnetic recorders.

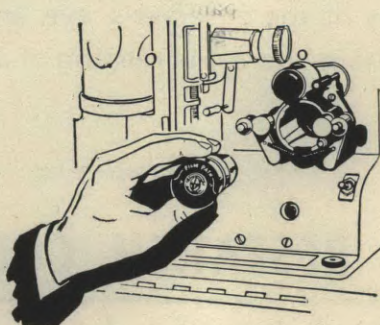
Illustrated here is the complete Magnesound unit attached to a conventional Victor 16mm sound projector. The arrow points to the Magnesound drum, which replaces the regular optical sound drum and exciter lamp of the projector—a simple operation pictured in detail in the illustrations below. The optical drum and components are easily removed simply by releasing a set screw; then the Magnesound unit is slipped into place, the set screw tightened, and the projector is ready for magnetic sound recording and reproduction.

The Magnesound attachment consists of recording amplifier with a simple control panel, the Magnesound replacement drum, and microphone. In use, the Magnesound amplifier is interconnected with the projector sound system by a convenient lead which plugs into the phono jack of the projector.

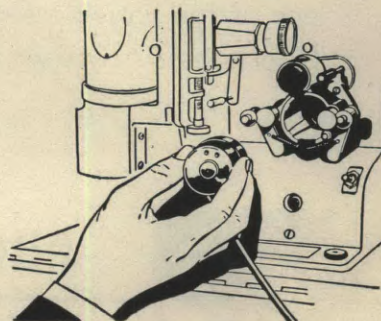
The Magnesound amplifier is as easy to operate as a radio or phonograph. Two knobs—one for determining volume for the recording, the other for selecting record and playback positions—are the only controls needed to operate the unit. A recording "eye" indicates proper recording level. A safety device guards against unintentional erasure of a recording.

With a Magnesound attachment on your Victor sound projector, you can record your own sound on any films you may now own having optical sound tracks; you can record sound on existing silent films; and you can record sound on any new film that you may make. In all instances you must first

(Continued on Page 124)



STEP 1—Release set screw, remove optical sound drum and exciter lamp from your Victor sound projector.



STEP 2—Replace with Magnesound drum, tighten set screw—and the attachment is installed, ready for use.



For *brighter, sharper* pictures  
choose **ANSCO HYPAN** film!



You'll be delighted to see the bright, clear-cut black-and-white screen images you get with this modern panchromatic film. Skin textures are smoother, details are sharper, right down to the last silken hair.

Ansco Hypan is an extremely fine grain panchromatic film of inherently brilliant gradation that brings new snap and sparkle to your black-and-white pictures. Its speed (40 daylight, 32 tungsten) makes Hypan a film for all 'round movie making—indoors or out.

What's more, you'll find that Hypan's down-to-earth price lets you take more fine movies for your money. You'll find Ansco 8 and 16mm Hypan film at photo dealers everywhere.

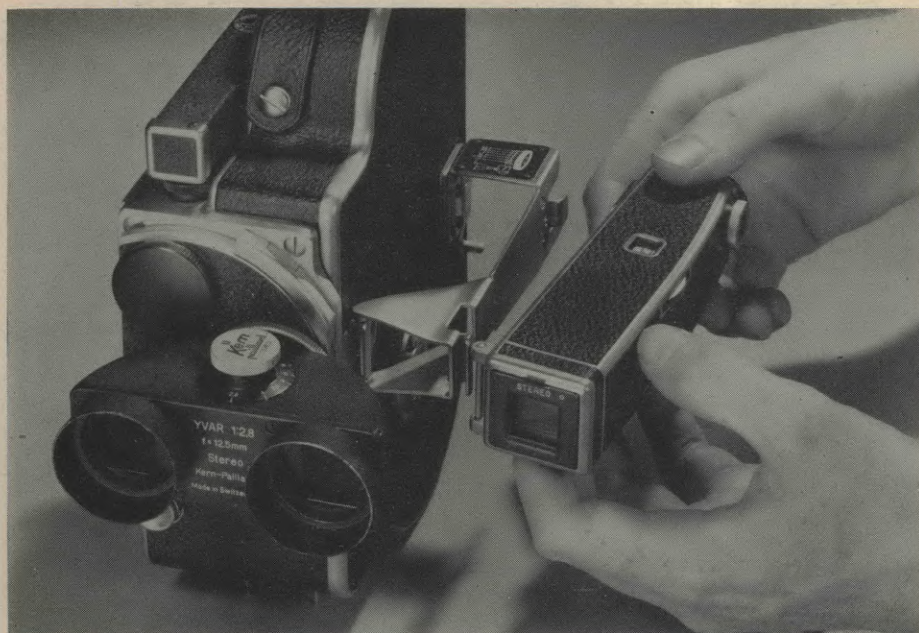
Ansco, Binghamton, N. Y. A Division of General Aniline & Film Corporation. "*From Research to Reality.*"

**FOR STRONGER SPLICES  
USE ANSCO  
CINE FILM CEMENT**

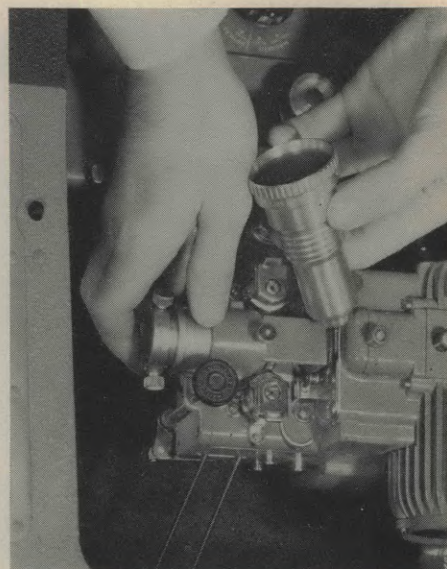
This improved product is easy to use and gives superior results with all color and black-and-white films. Handy 1 oz. bottle 40¢, at your dealer's.

**Ask for ANSCO HYPAN FILM**





THE STEREO attachment for the Bolex DeLuxe H-16 camera replaces the regular camera lens, provides adjustment for convergence and setting of f/ stops. A special mask is also provided for viewfinder. Attachment may be used only on Bolex cameras.



TO PROJECT 3-D movies made with the Bolex camera, a special lens is provided for the projector. The attachment may be used with almost any 16mm sound or silent projector.

## Cine Amateurs Can Make 3-D Movies, Too

By PHILIP TANNURA, A.S.C.

**N**OW THAT HOLLYWOOD has gone all out for stereoscopic movies, there is a flurry of interest in 3-D on the part of amateur movie makers everywhere. The interesting thing about this new movie innovation is that any amateur cine filmer with 16mm equipment can make three-dimension movies, too—and many have been for some time. Some explored the intricacies of stereo cinematography and projection years ago, building their own equipment for both taking and showing three-dimension motion pictures.

Today, equipment for 3-D home movies is ready-made for the amateur. Prominent is the equipment of Paillard-Bolex and the Nord Company, both of which previously were announced in the pages of *American Cinematographer* and other photographic publications.

To make and show three-dimension home movies two accessories are required: (1) an optical "scene-splitting" device for the camera lens, and (2) a similar attachment for the projector. Of the two systems mentioned above, the Bolex is perhaps the most extensively engineered (It is the more expensive of the two). The Bolex unit for the camera is actually a lens, which replaces the regular taking lens of the camera. Properly termed, the unit is known as the Bolex Stereo Yfar f/2.8 taking lens. It may be used only with the Bolex DeLuxe H-16 camera.

It consists of a pair of fixed-focus lens elements rated at f/2.8 set at the rear of a housing having the two openings at the front through which the scene is recorded as twin images and transported through the optical system to the film. On the film the twin images have a vertical format, each about a

half-a frame in width and a full frame in height. Lining up and viewing the 3-D scene is accomplished through the Octameter finder, which is adapted for stereo filming by offset

DR. O. H. GRIST, Glendale, Calif., eye specialist, built his own stereo movies equipment, using two Eastman 8mm cine cameras interlocked mechanically for photography. To project the films, he rigged up twin 8mm projectors, as pictured at far right.





brackets and a simple, slip-on stereo mask.

A knurled knob controls the precise setting of diaphragms of both lenses, which have a range of from  $f/2.8$  to  $f/22$ . The attachment permits shooting 3-D movies of subjects from 5 feet to infinity. A closeup attachment, now being developed by Paillard, will be announced shortly. Either 16mm color or black-and-white film may be used; the lens is said to be fast enough for limited color photography at night.

To project stereoscopic movies, Bolex provides a special twin projection lens unit, which replaces the regular projector lens. Unlike with the taking lens, the Bolex stereo projection lens may be used with almost any 16mm sound or silent projector. Two knobs on the lens provide focusing and alignment adjustment—simple as focusing the conventional projector lens.

To screen stereo movies which require Polaroid viewing glasses, a metallic silver screen is required. This is usually coated with a fine grade of aluminum paint. A metallic screen is necessary for all stereo projection, because any other type depolarizes the light and renders the 3-D images void.

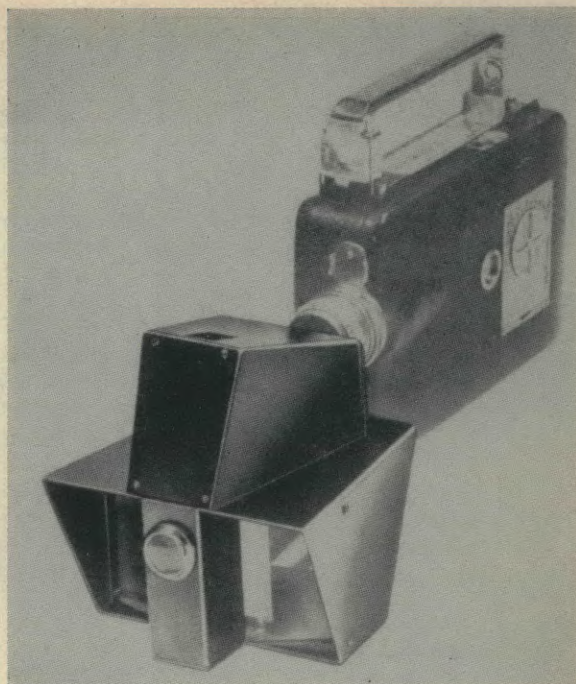
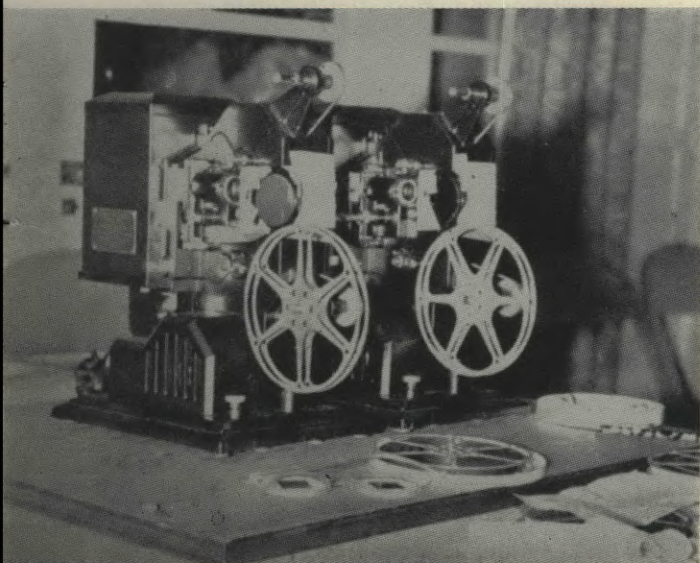
Bolex offers a complete outfit for making and projecting 16mm stereo movies for \$397.50. This includes the taking lens, the projection lens, metallic screen and two pairs of Polaroid viewing glasses. Additional viewing glasses are available at small cost.

Perhaps the first to introduce a practical system for making and showing 16mm stereoscopic home movies was the Nord Company, Minneapolis, Minn., whose equipment was described in detail in the February, 1952, issue of *American Cinematographer*. The Nord equipment is attached to the camera by means of a bracket which fastens to the tripod socket. The unit will enable one to make 3-D movies with practically any make or model 16mm camera having a one-inch lens. When shooting, the regular camera viewfinder is not used. The scene is lined up through the reflex finder on top of the Nord Camera Converter.

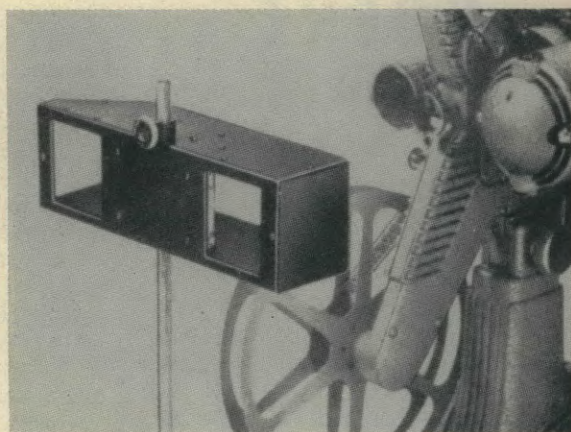
Since the camera unit does not attach to the lens itself there is no problem of adapters; nor does the speed of the lens or size of the barrel affect the use or mounting of the unit.

The bracket is a machined aluminum casting, and is universally adjustable so that with the aid of a screw driver it can be adjusted to suit any make of equipment. In fact, the

DR. GHRIST mounted two 8mm projectors on a baseboard and interlocked them by mechanical linkage so they would turn with the shutters opening and closing in unison. Right and left images were projected to metallic screen through Polaroid screens mounted before either lens.



**THE NORD STEREO ATTACHMENT** for cine photography is called a 'converter.' This is attached to camera by means of bracket fastened to tripod socket. Camera viewfinder is dispensed with, and pictures are lined up through the reflex viewfinder in top of converter.



**NORD converter unit mounted before projector.** A special screen of vertical format, and special Polaroid viewing spectacles complete equipment necessary for viewing stereoscopic home movies.

only part of the entire kit which is "special" is a small clip used to guide the side of the camera so that the lens always points directly into the optical head.

This new camera unit should not be confused with any of the devices tried in the past, which used mirrors to separate the images to form a stereo pair. The principles employed are quite new and involve several optical wedges which are achromatized.

The camera lens, looking through this optical head at a scene, records two images which correspond to the right eye and left eye views required for a true and accurate 3rd dimension movie. These twin-picture images are recorded on the film side by side in the space normally occupied by a standard single frame image.

Since the entire stereo unit attaches to the camera in the same way that the camera would be mounted on a tripod, it can readily be attached or detached as occasion demands and there is no machine work or alteration required on the

(Continued on Next Page)





# GOERZ

## LENSES

for

### MOVIES and TELEVISION

The heart of your camera is your lens. For dependable performance and highest definition in black and white and color, finest results are assured with

#### **HYPAR W-I-D-E ANGLE**

**ANASTIGMAT F:2.7**

focal length: 15mm and larger

•

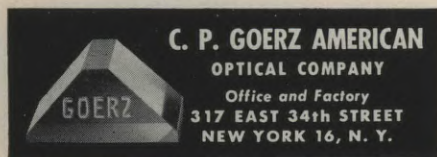
#### **APOGOR ANASTIGMAT**

**F:2.3**

focal length: 35mm 50mm 75mm

Designed for use in 16 or 35mm cameras, these fine lenses are corrected for all aberrations at full opening.

For complete details, ask your local dealer or write Dept. AC-31.



## AMATEUR 3-D MOVIES

(Continued from Preceding Page)

camera itself. It can be used with the camera either hand-held or mounted on a tripod. With the unit in place stereo movies are made in the same way that has always been employed for flat movies. In fact, the only difference is that you increase exposure by  $\frac{2}{3}$  stop, just as if you were using a filter. The camera unit may be used with black and white or color film, and the processing is unaffected.

Projection of the stereo films involves the use of the Nord Projector Converter. This is an optical unit housed in a metal case and supported on an independent base, so that it is unnecessary to attach the unit to the projector at all.

In use, the projection unit is placed on the same table with the 16mm projector at a distance of approximately one foot ahead of the projection lens. The beam of light passes through this unit on its way to the screen. The exact position of the unit is not particularly critical. The projection unit does two things. It polarizes the light independently for the right- and left-hand images and at the same time it overlaps these images in correct registration. Two simple adjustments are provided so that by turning two knobs the images can be aligned independently in both the vertical and horizontal positions. Ordinarily once these adjustments are made for a particular projector they need not be repeated unless, of course, the settings are disturbed between showings.

As viewing 3-D movies with the Nord equipment requires the spectator to wear Polaroid glasses, the same as with Bolex 3-D movies, a metallic screen is also required for projection.

Interesting is the fact that the Rivoli Theatre in New York City is presently using the Nord Projector Converter to screen a program of 16mm stereoscopic movies which was made especially for this theatre. The unit reportedly provides maximum theatre quality of the screened pictures, which are projected by a 16mm high-intensity arc projector.

The complete Nord 3-dimension movies kit includes the camera unit, the bracket with whatever clip is required for your particular camera, the projection unit with supporting base, test film, two pair of cardboard type Polaroid glasses and a special screen. Price is \$83.50.

Long before either Nord or Bolex offered equipment for making 16mm 3-D movies, several ambitious amateur movie makers successfully built equipment for photographing and screening 3-D films. One of the most notable developments in this field, perhaps, was that of Dr. O. E.

Christ, a Glendale, California, eye specialist.

Dr. Christ first demonstrated his equipment back in 1938. Notable is the fact the equipment was designed for 8mm movies.

Mr. Christ used the same polarized light principles that have been successfully displayed both by amateur and professional in the 16mm and 35mm fields. It is believed his 8mm adaptation is the most successful yet from the standpoint of simplicity, cost of equipment, and cost of producing stereoscopic home movies.

Two Cine-Kodak eights, Model 20, were used by Dr. Christ in photographing his stereo pictures. The two cameras were mounted on a common base, far enough apart to permit access in loading and winding the two machines, as pictured in the accompanying photographs. Through the base ran a shaft, to which a cog was rigidly attached to each end. The cogs protruded out of the base far enough to mesh with a large cog which was part of the camera motor mechanism.

An opening was cut into the bottom of each camera to afford access to the winding gear and subsequent connection with the external gear and shaft.

The cameras were then bolted to the base, with each winding gear in mesh with the external gear and shaft, thus effecting positive synchronization of the two cameras.

Since the two cameras were thus locked in mechanical sync, one starting button was left permanently "on." The two cameras were started and stopped by the control button on the second camera.

In projection Dr. Christ employed two 500-watt Eastman projectors locked in sync by means of a shaft and universal joint connecting both machines. Suitable Pola screens were placed before each projection lens, and the spectator wore Polaroid glasses to view the pictures, the same as with 3-D movies today. The regulation metallic screen was, of course, used for projection.

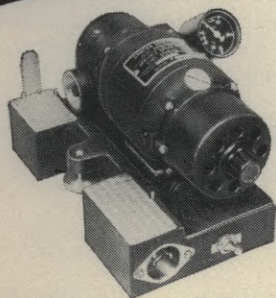
Although Dr. Christ successfully achieved stereoscopic 8mm movies more than fifteen years ago, he has never lost interest in this phase of movie making. Being among the first photographic hobbyists to take up movie making, Dr. Christ continues one of the most avid of non-professional movie makers.

In the beginning it was his interest in displaying pictures of the physical structure of the human eye that led him into research of 3-D movies as a means of presenting his subject even more



*In Studio...  
or on Location...*

**the new "Balanced" TRIPOD HEAD  
is doing a whale of a job every day**



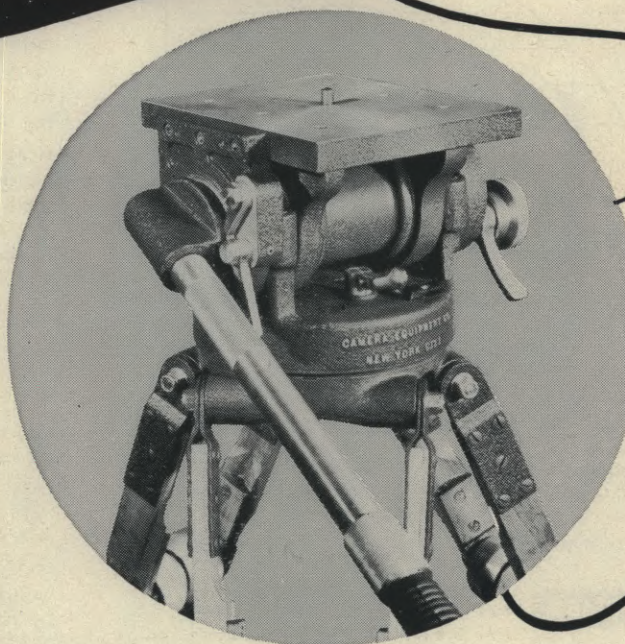
**VARIABLE SPEED MOTOR**—110 Volt AC/DC—  
with Tachometer for EK Cine Special

Motor drive your Cine Special with confidence! Tachometer is mounted in clear view of operator. Calibrated from 16 to 64 frames per second. Definite RED marking for 24 fps. Electrical governor adjusts speeds. Steady operation at all speeds. No adapters needed. Motor coupling attaches to camera and couples to motor. Spring steel drive arm shears if film jam occurs. Easily replaced.

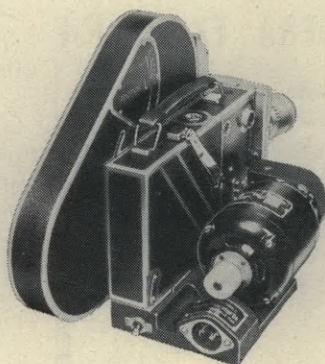
**SYNCHRONOUS MOTOR DRIVE**—110 Volt AC  
—Single phase, 60 Cycle.

Runs in perfect synchronization with either 16mm or 35mm Sound Recorders. Mounting platform permits removal of magazine while camera remains mounted on motor. Spring steel drive fin coupling prevents damage if film jam occurs.

Knurled knob on armature permits rotating for threading. "On-Off" switch in base. Platform base threaded for 1/4" or 3/8" tripod tie-down screw. Rubber covered power cable with plugs included.



HEAD ILLUSTRATED CONTAINS ADJUSTABLE CAMERA TIE-DOWN SCREW  
FOR LOCATING CENTER OF GRAVITY. THIS FEATURE IS OPTIONAL.



### "Balanced" Tripod Head

We threw the book away and engineered a brand new "BALANCED" Tripod for every photographic and video need. The result—a revelation in effortless operation, super-smooth tilt and 360° pan action.

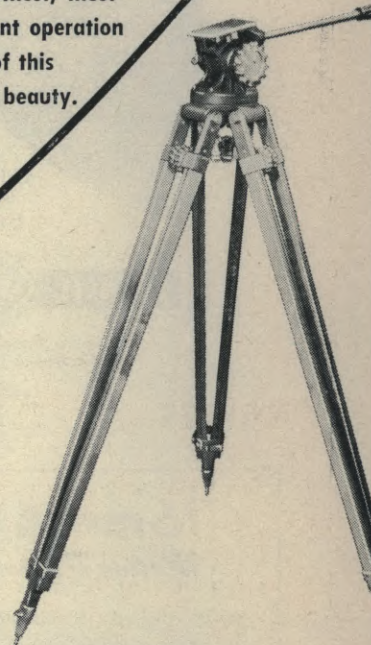
PERFECT BALANCE prevents mishap if the lock lever is not applied. Quick release pan handle locks into desired position. Mech-

anism is enclosed, rust-proof, needs no lubrication.

Tension adjustment for Camera Man's preference. Built-in spirit

level. Telescoping extension

pan handle. We defy you to get anything but the smoothest, most efficient operation out of this tripod beauty.



**PROFESSIONAL JUNIOR TRIPOD**—Friction Type

Handles all 16mm cameras, with or without motor. Also 35mm DeVry, B & H Eyemo with and without motor, and 400' magazines. Tripod base interchangeable with Professional Junior gear drive head. "Baby" tripod base and "Hi-Hat" base available.

*If you work with film...* for Studio, Newsreel, Commercials, Business, Industrial or Home Movies—it will pay you to get to know us. The country's foremost professionals depend upon our portable, versatile, adaptable equipment.

FRANK C. ZUCKER  
**CAMERA EQUIPMENT CO.**  
1600 BROADWAY NEW YORK CITY

### *We Rent and Service Cameras \* Moviolas \* Dollies*

Complete line of 35mm and 16mm  
equipment available for rental.

MITCHELL: Standard, Hi-Speed,  
BNC, NC, 16mm

BELL & HOWELL: Standard,  
Shiftover, Eyemos

MAURER: 16mm Cameras

MOVIOLA: Editing machines, Synchronizers

### *We Design*

and manufacture  
Lens Mounts  
and camera  
equipment for  
16mm—35mm  
and TV cameras.

### *We Calibrate Lenses* Precision "T"

STOP CALIBRATION of all type lenses, any focal length.

Our method is approved by Motion Picture Industry and Standard Committee of SMPTE. For proper exposure density, it is important that you have your lens "T" stop calibrated. Lenses coated for photography. Special TV coating. Rapid service.

ARRIFLEX Camera

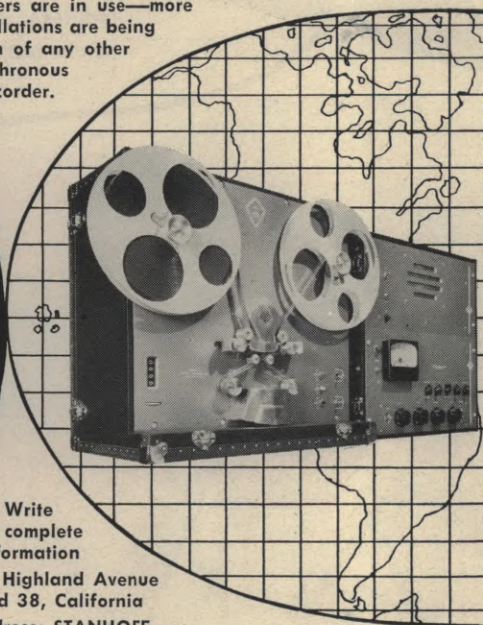




## IN CHICAGO

More Stencil-Hoffman S-5 Synchronous Magnetic Film Recorders are in use—more new S-5 installations are being made, than of any other synchronous recorder.

Television and Motion Picture producers the world over agree that for quality, price and versatility their choice is the Stencil-Hoffman S-5.



Write for complete information

921 North Highland Avenue  
Hollywood 38, California  
Cable Address: STANHOFF

**STENCIL-HOFFMAN**

Complete Recording Systems from  
Microphone To Release Print



H. J. Geist & Assoc.  
60 E. 42nd Street  
New York 17, N.Y.

W. Cozzens  
220 Kedzie St.  
Evanston, Ill.

S. W. Caldwell, Ltd.  
150 Simcoe Street  
Toronto 1, Canada

S.O.S. Recording  
1545 N. Beretania  
Honolulu, Hawaii

realistically. Today, he is completing work on more advanced 3-D movie equipment. This he hopes to announce to the public within a few months.

In the meantime, many another serious cine amateur is bound to be inspired by the new pictorial thrill which stereoscopic movies afford. Already there is considerable interest manifest in the commercial equipment for 3-D home movies, described earlier, and it is likely that there will be a great many home-made 3-D adaptations taking shape before long. Putting together equipment for making and showing stereo movies is an interesting and challenging project for any avid cinebug looking for new fields to conquer.

## MAGNETIC SOUND

(Continued from Page 118)

forward your film to a laboratory for an inexpensive application of the sound stripe on edge of the film. This is a narrow ribbon of magnetic iron oxide coating. This coating or sound-stripping service is offered by Eastman Kodak Company, Bell & Howell Company, and by Reeves Soundcraft Corp., New York, N. Y. In all instances, the 16mm film to be coated must be single-perforated—that is, having sprocket holes on but one edge of the film. In the case where you wish to add sound to your old double-perforated 16mm films, it will be necessary first to have dupes made on single-perforated stock, and then have the film striped for magnetic recording.

The application of a magnetic track to existing sound films having an optical track, does not impair use of the optical track, so that it is possible to play back either track as desired.

Magnesound will record or playback at either 16 or 24 fps, making it possible for you to add sound to movies shot at either sound or silent speed.

Because the recordings are made while the film is projected, absolute synchronization is assured. After recording sound, you simply reverse or re-thread the projector and play back the sound immediately. Editing of sound track is simple, too; you can re-record any number of times on the same film. In short, recording procedures are essentially the same as for all average home tape recorders.

In offering the Magnesound attachment to owners of Victor 16mm projectors, Victor Animatograph Corporation has taken an important step forward in making simple sound recording available to the average amateur movie maker. Attractive is the fact one does not have to dispose of his present Victor

## 16 mm & 8 mm Motion Picture Service

16 mm Reduced to 8 mm  
8 mm Enlarged to 16 mm

16 mm Duplicates  
8 mm Duplicates

Color and Black and White

35 mm slide duplicates  
and film strip service



**GEO. W. COLBURN  
LABORATORY, INC.**

164 North Wacker Drive, Chicago 6, Illinois

## RUBY CAMERA EXCHANGE

Rents . . Sells . . Exchanges

Everything You Need for the

## PRODUCTION & PROJECTION

of Motion Pictures Provided  
by a Veteran Organization  
of Specialists

35 mm. . . . 16 mm.  
Television

IN BUSINESS SINCE 1910

729 Seventh Ave., New York 19, N.Y.

Tel: Circle 5-5640

Cable Address: RUBYCAM

## Scheibe FILTERS

In World-Wide Use

Produce moonlight and night effects  
in daytime • fog scenes • diffused focus  
and many other effects.

Information mailed on request.

**SCHEIBE FILTERS COMPANY**

ORIGINATORS OF EFFECT FILTERS  
P.O. Box 16834, Hollywood 46, Calif.

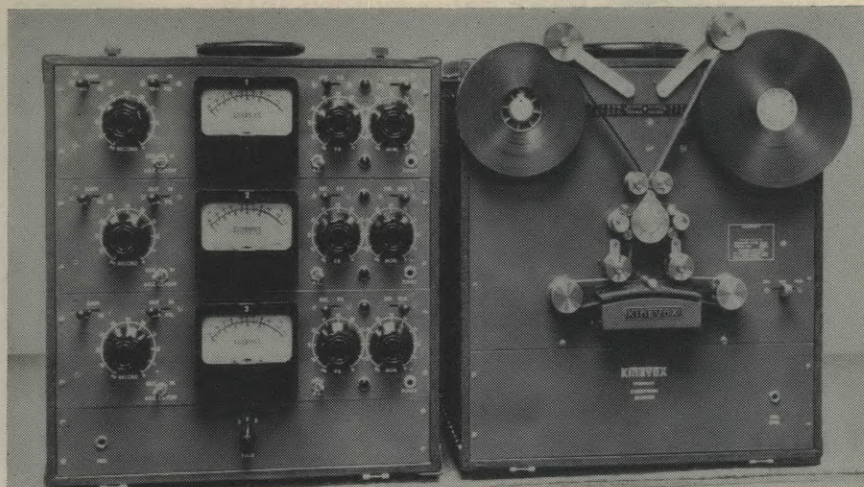
Your original negative duplicated in  
dissolves and other optical effects.

## RAY MERCER & CO.

4241 Normal Ave. • Hollywood 29, Calif.

Send for Free Optical Effects Chart





# READY NOW!

## KINEVOX PORTABLE SYNCHRONOUS STEREOPHONIC MAGNETIC RECORDER

and  
THEATRE PLAYBACK  
EQUIPMENT  
for  
**3-D PICTURES**

Theatre Playback Equipment • Rack Mounted • Any Reel Capacity  
17½mm Magnetic Film • 90 Ft. Per Minute

**NOTICE TO KINEVOX OWNERS!**  
Your Kinevox Recorder, regardless of age, can be converted into  
a Stereophonic Recorder at a reasonable price.

*THERE ARE NO OBSOLETE KINEVOX RECORDERS*

KINEVOX BUILDING  
116 SO. HOLLYWOOD WAY  
TELEPHONE: ROCKWELL 9-3291  
ROME • BOMBAY •

# KINEVOX

I N C O R P O R A T E D

NEW YORK •

RIO DE JANEIRO •

BURBANK  
CALIFORNIA

CABLE: Kinevox, Burbank

CANADA

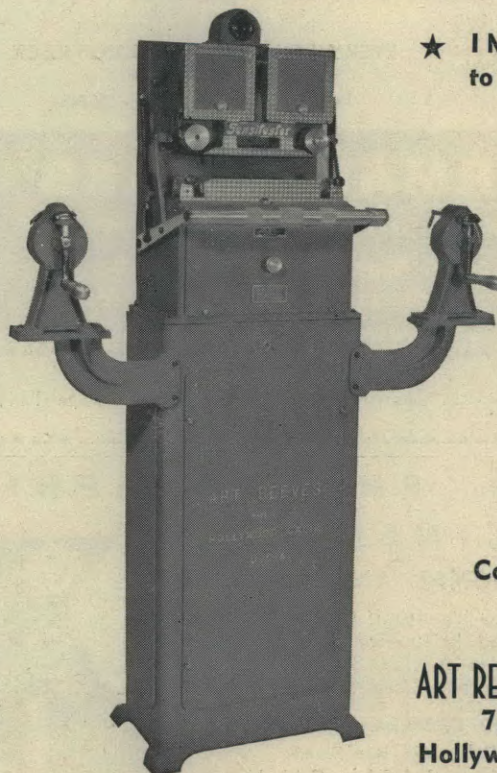
sound projector in order to obtain the advantages of the newer, simpler magnetic sound. He retains his equipment and simply improves it with the Magnesound attachment.

This is in line with the oft-expressed wishes of so many amateur movie makers for simple, low-cost magnetic recorder-playback equipment that would provide synchronized sound for amateur movies—both 8mm and 16mm—in conjunction with their present silent projectors. Perhaps this is just around the corner. Victor's Magnesound, it is believed, is bound to stir up some sound thinking along this line among other equipment manufacturers. In the meantime, if you own a Victor 16mm optical sound projector, magnetic recording of sound for your home movies can now become a reality. **END**

A new camera control system which permits motion picture cameras to be cut in and out of line as needed during the filming of TV shows has been developed by Ferenz Fodor, Filmcraft Productions, Hollywood.

Although no prizes or trophies are offered by the Edinburgh Film Festival, the certificates awarded to all films selected for showing is esteemed a high honor.

## Model M53 SENSITESTER



★ **IMMEDIATE DELIVERY**  
to the lab owner interested in—

**QUALITY  
EFFICIENCY  
ECONOMY**

- **DUAL MACHINE**  
1—Sensitometer  
2—Scene Tester
- **HIGHLY ACCURATE**  
Electronic timer unaffected by climatic changes.
- **NEW TYPE LONG-LIFE**  
Cold Light Exposure Unit
- **WITHOUT ADDITIONAL EXPENSE** will match any printer

**Combination 35mm-16mm**

F.O.B. Hollywood, Calif.

**ART REEVES MOTION PICTURE EQUIP.**  
7512 Santa Monica Blvd.  
Hollywood 46 **California**



**F&B****NEW & USED EQUIPMENT**

FOR MOTION PICTURE &amp; TV FILM PRODUCTION

**F&B****EXTREME WIDE ANGLE  
ANGENIEUX RETROFOCUS LENSES**9.5mm f2.2 in 16mm "C" mount  
18.5mm f2.2 for all 35mm cameras

- ★ Extreme wide angle of view
- ★ Fabulous depth of field
- ★ Beautiful exaggerated perspective
- ★ Absolutely color corrected
- ★ Anti-reflection coated
- ★ Excellent resolution and contrast
- ★ Excellent field coverage
- ★ Completely free of distortion

LIMITED QUANTITIES NOW AVAILABLE

**FREZZOLITE**

High-powered portable spot/flood light with 32v power supply and builtin battery charger. Bracket attaches light to any movie camera. Used by leading TV stations and newsreels. Excellent for daylight "fill" or "booster" . . . eliminates unwieldy reflectors and heavy lights. Weight totals only 20 lbs . . . furnished with carrying case and shoulder strap.

AVAILABLE IMMEDIATELY.....PRICE \$210.00

**F&B MOTION PICTURE TIMERS**

CLOCK TIMER, spring-wound, large diameter face, calib. 6 scales, 3 16mm & 3 35mm minutes.....\$14.95

STOPWATCH TIMER, calib. 16mm & 35mm feet, also minutes & seconds, with reset ..... 29.50

WRISTWATCH TIMER, 17 jewel precision movement, luminous face..... 37.50  
16mm & 35mm

ALL F&amp;B TIMERS FULLY GUARANTEED

**F&B PORTABLE MIKE BOOM**

Folding mike boom extends to 18 feet. Braced and strutted, will support any weight mike. Sturdy 3-wheeled folding stand, rotating mike controls from rear. Total weight 45 lbs. All parts chrome plated.

FITS IN YOUR CAR

**F&B EQUIPMENT RENTALS**

CAMERAS . . . 35mm and 16mm

NEW SUPER-1200 AURICON

Mitchell, Maurer, Auricon, Bell &amp; Howell, Cine Specials, Filmo, Arriflex.

MOVIOLAS . . . 35mm and 16mm

Sound readers, synchronizers, hot splicers, sync. recorders and projectors, motors, tripods, dollies, blimps, mike booms, Bardwell-McAllister lights and cables, Zoom lenses, magazines, accessories.

WRITE FOR RENTAL PRICE LIST

**BARGAINS IN USED EQUIPMENT****16mm Cameras**

CINE KODAK Special I, black model, 15mm f2.7  $\frac{5}{8}$ " f2.8, 1" f1.9, 1 1/2" f2.8 lenses.....\$ 427.50

VICTOR Mod. 4, 15mm f2.7, 25mm f1.5, case ..... 112.50

AURICON CT-70, 110v. sync motor, blimped, 200 ft. cap., excellent..... 495.00

BERNDT-MAURER 16mm camera, 400 ft. mag., 110v. sync motor, pilot pins, prism rackover, finder, sunshade, case ..... 1,975.00

BERNDT-MAURER 16mm single system sound camera, 2-400 ft. mags, 1000 ft. mag. 3 motors, ampl., power supply & generator, cables, 5 cases..... 4,450.00

FILMO 70-H, 400 ft. mag., 12v. motor, 1" f1.9 lens, compartment case, like new ..... 645.00

**35mm Cameras**

EYEMO, single lens, 2 speeds, 2" f2.5 Cooke .....\$ 187.50

EYEMO, spider surret 2" f2.8 Eyemax ..... 585.00

EYEMO, 71M compact turret, filter slot, turret finders, 2" f2.8 EYmax, like new ..... 725.00

DEBRIE, mod K, metal, 6 mags, motor, cases ..... 149.50

AERIAL camera, K-21, 7" f2.5 ctd Ektar ..... 145.00

**ECCO 1500****NEW ANTI-STATIC FILM CLEANER AND CONDITIONER**

Used and highly recommended by leading film studios and libraries everywhere.

- ★ Stops static attraction of dust and dirt to film surface
- ★ Eliminates waxing
- ★ Reduces surface friction 80%
- ★ Masks film chatter — heat-resistant
- ★ Conditions green prints — dries faster
- ★ Lubricates — keep film non-brittle
- ★ Does NOT contain carbon tetrachloride

ECCO 1500.....qt. \$2.50 gal. \$9.60

ECCO 1500 Speedrol Applicator — Most practical film cleaning unit. Saves time, fluid, labor, money. Price.....\$29.50

WRITE FOR COMPLETE DETAILS AND FREE SAMPLE

**F&B HAS A COMPLETE STOCK OF NEW AND USED CAMERAS, PRODUCTION, LIGHTING, EDITING AND LABORATORY EQUIPMENT**

Visit our new, larger showroom or

WRITE — WIRE — PHONE

**EVERY ITEM SOLD IS MONEYBACK GUARANTEED**

WE BUY — SELL — RENT

**1952 AWARDS NOMINEES**

(Continued from Page 114)

**BLACK-AND-WHITE PRODUCTIONS**

"The Bad And The Beautiful," (MGM)

Robert Surtees, ASC.

"The Big Sky," (Fox), Russell Harlan, ASC.

"My Cousin Rachel," (Fox), Joseph LaShelle, ASC.

"Navajo," (Lippert), Virgil Miller, ASC.

**COLOR PRODUCTIONS**

"Hans Christian Andersen," (Goldwyn), Harry Stradling, ASC.

"Ivanhoe," (MGM), Frederick A. Young, ASC.

"Million Dollar Mermaid," (MGM), George Folsey, ASC.

"The Quiet Man," (Argosy-Republic), Winton Hoch, ASC.

"The Snows Of Kilimanjaro," (Fox), Leon Shamroy, ASC.

Of the ten cinematographers, six have previously won awards for photographic achievement. For his outstanding photography of MGM's "King Solomon's Mines," Robert Surtees won an "Oscar," a Look Award, and a Golden Globe Award in 1951. In 1952, he won his second Golden Globe Award for the color photography of "Quo Vadis," which he co-directed with William Skall, ASC.

Joseph LaShelle won an "Oscar" in 1944 for the photography of "Laura."

Charles Lang, Jr., garnered his initial "Oscar" in 1933 for the superlative photography of "Farewell To Arms."

Harry Stradling joined the "Oscar" winning ranks in 1945 when he won an award with his photography of "The Picture Of Dorian Gray."

If Winton Hoch captures an "Oscar" in the color films class this year for his lensing of "The Quiet Man," it will be his third. He won his first in 1948 for "Joan Of Arc," and repeated the following year when his artful color photography of "She Wore A Yellow Ribbon" easily won him an Academy award for photographic achievement.

Leon Shamroy leads the roster of contenders this year with a total of three "Oscar" statuettes on the mantle in his home. These were won by him in 1942 for "The Black Swan," in 1944 for "Wilson," and in 1945 for "Leave Her To Heaven." In this respect Shamroy is tied with Arthur Miller, ASC, who also has won three "Oscars" for photography. Should Shamroy win an award for "The Snows of Kilimanjaro" this year, he will become the leading "Oscar" winner among cameramen—the only one to have won four Academy awards. Previously, Shamroy won a Look Award in 1944 for the photography of "Wilson," and another in 1950 for photography of "Twelve O'Clock High"—both Fox productions.

**F&B****FLORMAN & BABB**

70 West 45th Street, New York 19, N. Y.

Phone: Murray Hill 2-2928

Cable Address — FLORBABB, N. Y.

Used Equip. Bargains — in this month's Classified Ads on Page 141.

**EVERYTHING PHOTOGRAPHIC****AND CINEMATIC****FOR PROFESSIONAL AND AMATEUR**

The World's Largest Variety of Cameras and Projectors. Studio and Laboratory Equipment with Latest Improvements as Used in the Hollywood Studios. New and Used . . . BARGAINS.

**HOLLYWOOD CAMERA EXCHANGE**

1600 Cahuenga Boulevard

HO 9-3651 • Hollywood, Calif. • Cable Hocamex





Frederick Young, of London, England, is the sole foreign contender this year; it is the first time one of his pictures has been nominated for an Academy award for photography.

The respective merits of the photography of the ten nominated productions will be the subject of much discussion and no little controversy during the next few weeks which precede the final voting and awarding of the Oscar trophies at the Academy's gala presentation ceremonies. This will take place at the RKO-Pantages theatre in Hollywood the night of March 19th.

The selection of films for the Academy's annual Cinematography Awards begins each year with the cinematographers themselves. The first of January, each director of photography in the Hollywood motion picture industry is invited by the Academy to enter one black-and-white production and one color production on which he has received single or joint screen credit. Titles of these films are included on a preliminary or "primary" ballot, which is then sent to all directors of photography in the industry. In addition, each director of photography must submit any one eligible black-and-white and one eligible color foreign production which he deems worthy of Awards consideration. Thus, foreign-made films have a chance to compete with Hollywood films for "Oscars."

On receipt of the preliminary ballots, each director of photography then votes for ten or less productions in each classification, in the order of his preference. The twenty productions receiving the greatest number of votes are then screened by the Academy to give all directors of photography opportunity to see these productions under the same conditions.

Following these screenings, a nomination ballot, listing the ten black-and-white and ten color productions is sent to all directors of photography with instructions to vote for not more than five in each classification in the order of preference. The five productions in each class receiving the highest number of

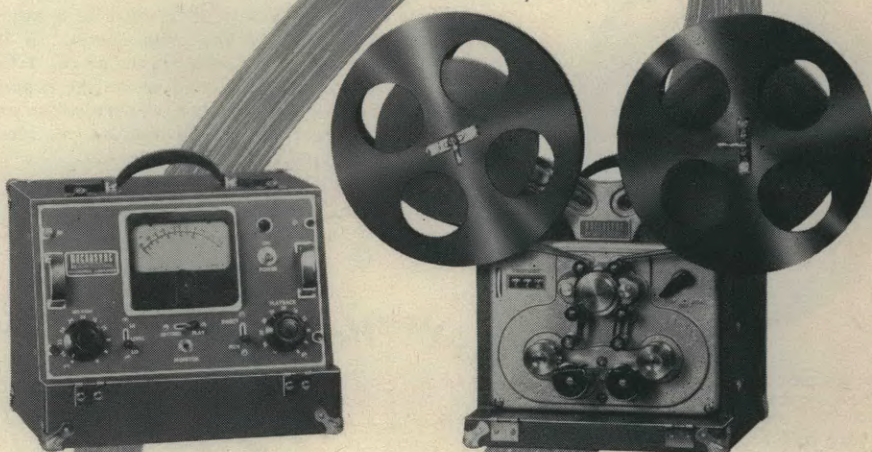
#### "Oscar" going on TV!

For the first time in history millions of movie fans throughout the nation will be able to look in upon Hollywood's biggest night of the year—the exciting Academy Awards Presentation—when the 1952 "Oscars" are distributed on Thursday, March 19th.

The 25th Annual Presentation Ceremony, to be held at the RKO-Pantages Theatre in Hollywood, will be carried over the combined radio and TV networks of the National Broadcasting Company.

No compromise with  
to achieve

Quality  
Economy



The full utilization of modern day manufacturing technology has produced a series of magnetic film recording devices distinguished by excellent performance, exceptional portability and rugged dependability. The amazing spontaneous adoption of the MAGNASYNC as the national standard clearly points up the fact that no compromise with quality has been granted.

Maximum portability, extreme light weight and compactness are important features . . . but these are secondary to the prime qualifications of flutter-free motion, wide range response spectrum, high dynamic range, clean, distortion-free sound and maintenance-free operation.

Equipment is now available to the producer at unbelievably low prices!



Available in:  
16mm double perforated film  
16mm single perforated film  
17½mm

**Price: \$1275 complete**  
F.O.B. North Hollywood, Calif.

Send for complete technical data

### DISTRIBUTORS

Southwestern  
**MAGNETIC RECORDERS COMPANY**  
7120 Melrose Ave., Los Angeles 46, Calif.  
WEbster 3-5545

Northeastern  
**CAMERA EQUIPMENT COMPANY**  
1600 Broadway, New York 19, New York  
Judson 6-1420 Cable Address: CINEQUIP

Manufactured by:

**MAGNASYNC — P.O. BOX 707 • NORTH HOLLYWOOD, CALIFORNIA**





**Photo Research Corp. helps**  
the FILM INDUSTRY . . .

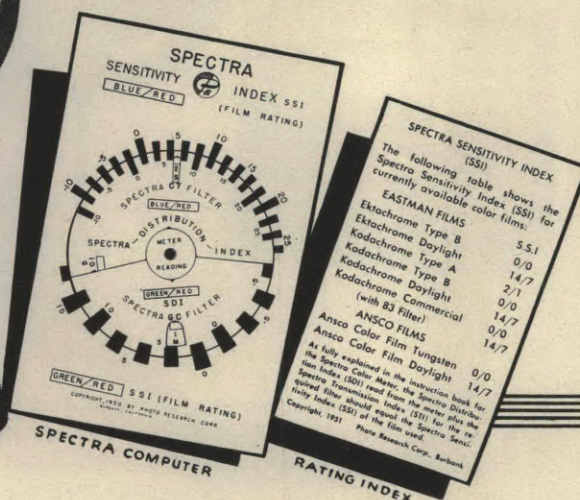
# New SPECTRA 3 COLOR METER

**THE ONLY METER THAT MEASURES ALL LIGHT SOURCES, INCLUDING DAYLIGHT, ACCURATELY**



The only meter that has the two scales—BLUE/RED and GREEN/RED and is calibrated to read directly in the new Spectra Index Units (Table is supplied to convert Spectra Index into Kelvin Units)

For a true color picture, there must be a correct relationship between the color content of the light and the color sensitivity of the film. SPECTRA 3 Color Meter measures the proportionate amounts of all three primary colors present in the light source, and indicates the filters necessary for positive color correction.



For more complete information write to



**PHOTO RESEARCH CORP.** KARL FREUND, President

127 WEST ALAMEDA AVE. • BURBANK, CALIFORNIA  
Telephone: CHarleston 0-8145

## PRACTICAL FILMING TECHNIQUES

(Continued from Page 107)

the frame. It is disturbing to cut on a shoulder or to have the hands of the players going in and out through the frame, which in 3-D has solidity.

In three-dimension films, the eye scans the scene much more than in the flat picture. For this reason it is desirable to have as much definition and depth of focus as is possible. For the same reason excessive contrast and empty shadows place a hardship upon the spectator who automatically is trying to analyze every part of the picture.

Much of the present technique can be retained in 3-D cinematography. Boom shots, pan shots, travel shots and such can be used to good advantage where provision for follow focus and lens con-

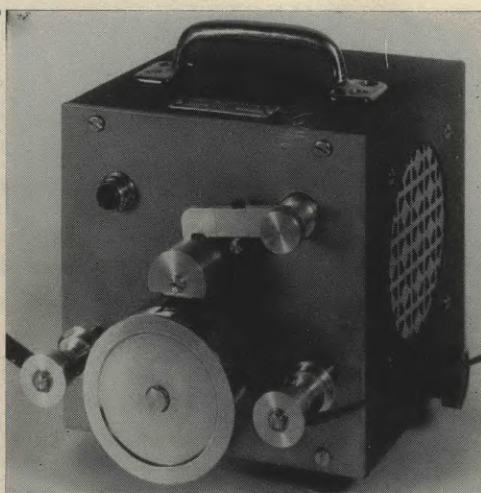
### Precision Built Combination Magnetic Film and Tape Sound Reader

Features: Simple threading . . . polished stabilizer drum with needle bearings . . . combination film rollers for 16mm, 17.5mm, 35mm and 1/4-inch tape, machined to conform with SMPTE standards, and equipped with oilless bearings . . . precision ground shafts . . . Magnetic head mount with adjustments for track locations, azimuth, and magnetic film and tape thickness . . . dimensions 6x6x7 1/2.

Amplifier: 117-volt—60-cycle—AC power output—4 watts . . . heavy duty Alnico V speaker . . . safety fused . . . pilot light . . . 6-ft. heavy duty line cord.

Net Price \$198.00 F.O.B., Factory, N.Y.

**PRECISION LABORATORIES**  
244 West 65th Street, New York 23, N. Y.





version on the principal objects of interest is accommodated. As the spectator is constantly adjusting his vision to each scene, it is good practice to plan sequences so as little cutting from one scene to the other is necessary. Dolly shots eliminate many of these quick cuts, and are therefore suggested. While the camera must be level laterally, there is no objection to tilting it up or down.

It is interesting to observe the audience participation in such scenes as those made from a roller coaster, tilting forward or backward as it helps the illusion in this type of scene. In long shots it is well to include more of the foreground than is usual with flat pictures. This provides an unobtrusive depth effect. Scenes made from parallels or other high set-ups preclude this foreground effect and should be avoided where possible.

In due time, better adjusted and therefore more comfortable Polaroid glasses will be available to the moviegoer as more 3-dimension films become available. In fact, prescription viewing glasses of the clip on type having Polaroid stereo lenses will be worn by those who ordinarily need glasses so that they may more fully enjoy the thrills of the realistic presentation that this medium will bring. As we learn to make 3-D productions without distortion and mechanical errors, the present objection to glasses will be overcome. It is reasonable to believe that comfortable glasses are no more objectionable than viewing a film through the windshield of a car at a "Drive In."

What about process shots, matte shots and some of the other special photographic effects we presently use? On the whole, rear-projection process can be used for 3-D films much as at present. Most plates or "keys" contain only distant objects. The foreground objects will be placed in front of the screen as usual and photographed with the 3-D cameras. In most cases this arrangement will reproduce satisfactory results. Straight side-angle plates from moving cars may take preference to say, three-quarter angles because in the former there is a natural separation of the angle of view between successive frames that correspond to the 3-dimension camera. Where present process cannot be used, double Polaroid projection plates with filters on the cameras and projectors, or the traveling-matte-color-separation method for each film can be utilized.

The usual matte painting concerns only distant vistas with small divergence or depth. In these cases, the same painting can be used for each film. Those cases where portions contain middle distant trees, buildings or other objects, will be repainted in proper perspective

(Continued on Page 138)

# HALLEN'S



**1953  
MODEL**

**LIP-SYNC  
16mm  
Magnetic  
FILM**

**RECORDER**

**Model 25B \$1495.<sup>00</sup>**

**IMMEDIATE DELIVERY**

♪ The HALLEN model "25B" 16mm magnetic film recorder assures you of 35mm studio quality at 16mm film speed. Frequency response: 30 — 10,000 cps

♪ One case portable unit. Removable power supply and playback speaker included.

♪ Three inputs for simultaneous use. Two microphones and one bridging input for music or background effects.

♪ Track placement is set for 16mm strip coated film or full coated single perforated magnetic film. Will never become obsolete.

♪ High speed forward and rewind. Separate motors.

WRITE FOR FREE LITERATURE AND PRICE SCHEDULE

Since 1948

# hallen

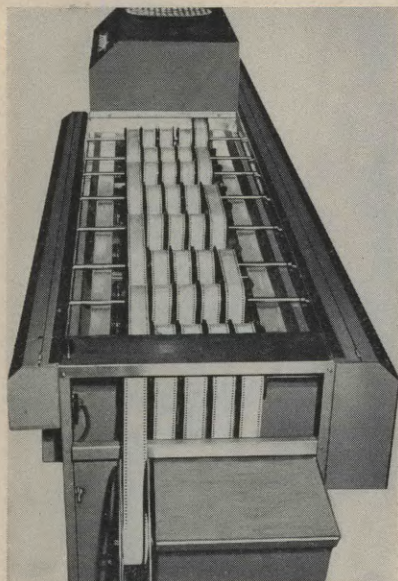
## CORPORATION

3503 WEST OLIVE · BURBANK, CALIF.

CABLE ADDRESS "HALLEN" · CHARLESTON 8-6976



# Perfect Processing Possible



*Bridgomatic*  
FILM PROCESSING EQUIPMENT

Controls your production from the start — **BRIDGAMATIC** straightline "Add-A-Unit" idea lets you buy the basic machine with stainless steel tanks, then add re-circulation, aeration, refrigeration, replenishment, filtration, etc. as needed. Costs little more than old fashioned, cumbersome slow acting rack and tank methods.

**BRIDGAMATIC** removes the "guess," saves valuable time, protects precious negatives, produces cleaner pictures. Develops and dries ready for showing same day events occur.

*After years of use, here's what owners say:*

**Gray-O'Reilly**—"Results uniform—not a scratch."  
**Alabama U.**—"Very satisfactory on TV films."  
**Reela Films, Inc.**—"Happy with our 2 Bridgamatics."  
**Empire State Prod.**—"Simple operation certainly pleasing."

**BRIDGAMATIC 216C35 Combination**  
16/35mm. Positive film speed 900' per hour .....\$4,495

**BRIDGAMATIC JR. \$1095**  
Good for small labs., pos. speed 600' per hr.

**AGENTS FOR:** Animation, Acmiola Editors, Auricon Super 1200 Cameras, Bardwell & McAlister Spots, Bell & Howell Printers, Blue Seal Recorders, Bodde Background Screens, Century Lighting, Contimatic Printers, Colortran Lifes, Fearless Cranes & Dollies, Hallen Recorders, Kinevox Synchronous Magnetic Recorders, Mole-Richardson Lights, Moviolas, Precision Sound Readers, Raby Blimps and Gearheads, S.O.S. Edge Numbering Machines, Studio Sound Readers and Synchronizers. Many Items Available on Time Payments.

**S. O. S. CINEMA SUPPLY CORP.**

DEPT. F  
602 W. 52nd ST., N.Y. 19  
Cable: "SOSOUND"

## PRODUCTION EQUIPMENT

### ARRIFLEX 35mm CAMERA SALES REPAIRS

Latest model II reflex motion picture camera, magazines, telephoto lenses, all accessories and spare parts available for immediate delivery.

**CAMART BLIMP and SYNC MOTOR**  
for the **ARRIFLEX** Camera

### HALLEN RECORDER

Series 25 magnetic sprocket-driven film recorder, three channel mixer, single case unit, immediate delivery.  
Price: \$1,495.00 FOB, Calif.

### COLORTRAN LIGHTS

Hi-Intensity lighting from —  
— low amperage circuits,  
IF YOU USE — voltage

up  
step  
COLORTRAN CONVERTERS.

All units available from 750 watt spots to 5000 watt floods. Constant Kelvin color temperature control.

**BUY — SELL — TRADE 16-35mm**  
**16-35mm EQUIPMENT**

## THE CAMERA MART, INC.

1845 Broadway, near 60th Street  
New York 23, N.Y. Circle 6-0930  
Cable Address: Cameramart

## 3-DIMENSION CAMERA

(Continued from Page 116)

color cameras. It is on this basis that Producers Service engineers have proceeded in the design of their 3-D camera.

Pictured in the series of photographs on this page, the PS 3-D camera is compact in size and moderate in weight, providing the flexibility needed in feature film production. The two cameras, actually film transport and recording units, are specially designed and constructed around Cunningham camera movements, well known for precision and accuracy in performance over a long period of use. The assembly resembles two conventional cameras mounted side by side in that the two housings are so mounted, affording close positioning of the lenses—so essential to obtaining a minimum interaxial distance. Each unit carries its own 1000-ft. film magazine mounted at the rear; magazines are readily demountable and interchanged.

To facilitate loading and threading, one camera is hinged at the base, allowing it to be tilted forward. This permits access to the film gate and sprockets, located on the side adjacent to the companion camera. Instead of the conven-

tional hinged camera door, the door on either camera consists of a sliding panel fitted to grooved tracks of close tolerances.

The camera affords a range of interaxial from 1.9 inches to a maximum of 4½ inches. To vary the interaxial, one camera is moved laterally on a calibrated base by means of a geared shaft extending through side of blimp and fitted with a handle.

To vary the convergence, the opposite camera is toed-in as required by means of a second crank outside the blimp controlling a geared shaft leading to the camera base. Here an important innovation has been worked out which enables the operator to observe and check convergence through a finder system that involves two mirrors operating much the same as the conventional range finder. Thus it is never necessary to check convergence directly through the camera lenses.

Focusing of lenses is also done manually by means of a calibrated dial on side of the blimp. Eventually, this operation will be controlled by a Selsyn motor operating the coupled lenses in unison by remote control.

Instead of the conventional focusing system whereby the lenses are screwed in and out of the camera mount, lenses are moved in and out of their mounts—i.e., toward or away from the film plane—by a precision cam and lever arrangement. The lenses, which are carefully matched, coated, and T-stop calibrated, are precisely registered in mounting to insure parallel exposures at all stops, and are mechanically coupled so that both lenses are set simultaneously. By means of the external manual control and the calibrated dial, varying focus during follow focus shots can be a precise operation.

Driving the two cameras in synchronism are two Selsyn "slave motors." These are driven through a Selsyn generator powered by a 110-v, 50-60 cycle sync motor. Generator and motor are in a separate housing and operate remotely, contributing further to the flexibility and light weight of the camera unit.

The fully blimped camera forms a compact and easy to handle unit for either studio or location use. The sponge-rubber-insulated blimp is approximately 24" X 28" X 28", having a cover which is entirely removable to afford full access to camera.

The company points out that one of the chief advantages of its camera is the fact no mirrors are involved in the photography. Each of the two lenses records the scene direct, making unnecessary any reversal of image or special optical printing. In other words, the camera delivers two negatives—one for the right and one for the left images—



having the same characteristics as those produced by conventional motion picture cameras in 2-D or "flat" cinematography. This is important, especially where Eastman or Ansco color negative is used because it makes it possible for laboratories to provide rushes a full day in advance over methods that require special printing of negatives.

Producers Service completed its first 3-D camera February 27th—the first of six scheduled for immediate construction. The cameras to follow will have several advanced features not incorporated in the first model. They will be smaller in overall size, have specially designed right and left film movements, and a focusing system synchronized for motor-driven remote control follow focus. The finder on the new models will be a new improved reflex type having a brilliant aerial image of constant brilliance irrespective of the f/value, and will be parallax-free.

Credited with the major portion of the engineering is Jack Kiel, chief engineer of the company. Gordon Pollock, ASC, cinematographer, inventor, and camera technician of note, has been serving as consultant to Kiel. Pollock becomes Producer Service's stereo technician and chief cinematographer. The company will lease its 3-D cameras to both major and independent producers, with Pollock's services as director of photography and stereo technician included.

First producer to use the new 3-D camera will be Lippert Productions, scheduled to begin shooting its first stereo feature film the first week of March.

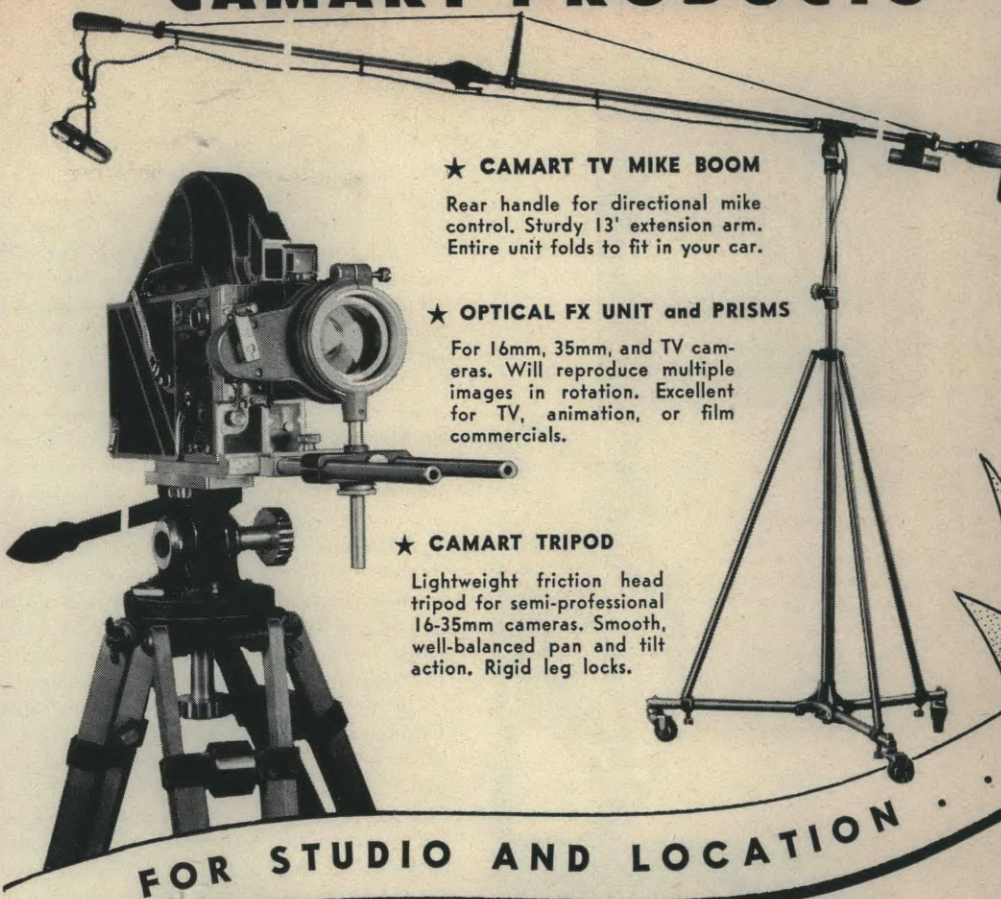
Soon to be completed by Producers Service is a 3-D camera of still another type, employing Bell & Howell cameras mounted at right angles and affording "zero" interaxial for miniature and special effects photography in three-dimension. This also will be a "service" camera for lease to studios as required.

## CINEMASCOPE

(Continued from Page 113)

CinemaScope attachment on the camera, it is reported, does not alter the exposure time. One minor change, in addition to the auxiliary lens, will be that of enlarging the horizontal scope of the camera viewfinder so that it will be possible for the cameraman to see the actual area taken in by the anamorphoscope auxiliary in front of the camera lens. The wide-range viewfinder viewing glass will have two vertical cross hairs which delimit for him the field of the ordinary screen (or standard aperture) inside of which he may assemble the elements of action when it is desired to

# CAMART PRODUCTS



### ★ CAMART TV MIKE BOOM

Rear handle for directional mike control. Sturdy 13' extension arm. Entire unit folds to fit in your car.

### ★ OPTICAL FX UNIT and PRISMS

For 16mm, 35mm, and TV cameras. Will reproduce multiple images in rotation. Excellent for TV, animation, or film commercials.

### ★ CAMART TRIPOD

Lightweight friction head tripod for semi-professional 16-35mm cameras. Smooth, well-balanced pan and tilt action. Rigid leg locks.

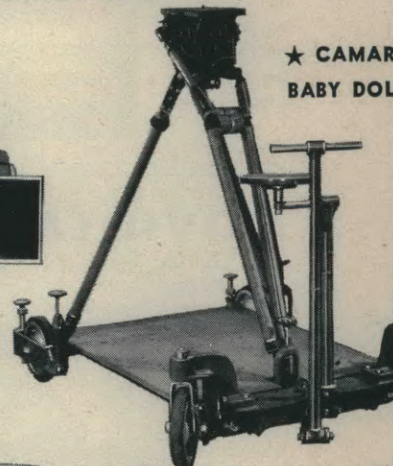
FOR STUDIO AND LOCATION

### ★ CAMART BLIMP for ARRIFLEX 35mm CAMERA

Geared follow focus control. Reflex viewing through the blimp eliminates parallax problem. 110 volt 60 cycle single phase sync motor. Geared footage counter. Accepts camera with 400' magazines.



### ★ CAMART BABY DOLLY



New advanced glide steering. Platform for assistant and accessories. Adjustable swivel seat. Rigid clamp for tripod legs. For tripod, baby tripod, and hi-hats. Size 35 x inches, it comes apart.

### ★ CAMART CAMERA DOLLY

Professional motion picture or TV camera dolly. Two seats for operator and assistant. Geared for smooth operation of boom arm from 26" to seven feet. 30" width will go through standard door. Weight 350 pounds. Easily transported.

Write for Details

Above equipment available for immediate delivery

SALES • RENTALS • REPAIRS

THE CAMERA • MART INC.

MOTION PICTURE AND TV PRODUCTION EQUIPMENT

1845 BROADWAY  
NEW YORK 23, N. Y.

Phone: Circle 6-093  
Cable Address: CAMERAMART



You can do this  
to any **Compco**  
Professional reel\*

—it'll snap  
back to  
perfect width!

It's easily explained.  
Only hard, spring-  
type steel is used in  
the making of  
Compco Professional  
reels. That's why  
they don't bend  
easily, and there's  
never a rub-a-dub-  
rub when you use  
them.

\*800 ft. to 2,000 ft. sizes

Reels, cans and  
fibre shipping  
cases available  
in all standard  
sizes.  
Write for catalog!



**Compco**

**CORPORATION**

2253 W. St. Paul Avenue  
Chicago 47, Illinois

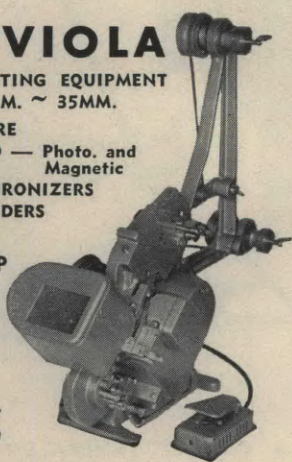
## MOVIOLA

FILM EDITING EQUIPMENT  
16MM. ~ 35MM.

- PICTURE
- SOUND — Photo. and  
Magnetic
- SYNCHRONIZERS
- REWINDERS

Model LP  
for  
16mm.  
Picture

Write for  
Catalogue



MOVIOLA MANUFACTURING CO.  
1451 Gordon St. • Hollywood 28, Calif.

### Automatic Daylight Developing Tank



- Processes up to 200 Ft.
- 8mm-16mm-35mm
- Movie—X-Ray—Microfilm
- Motor Driven—Portable
- Tough plastic tanks
- Uniform Density Assured
- 70mm tank also available
- Guaranteed

Write for Free Literature, Dept. C  
Micro Record Corp. 225 West 28 St.  
New York 1, N.Y.

ADVERTISING in these columns  
reaches 67 foreign countries.

present the action in the ordinary manner.

Checking the scene directly through the lens will present something of a problem because what the cameraman sees through the lens will be an optically compressed scene, the same as will be registered on the film. Because the stereophonic sound tracks of CinemaScope films will be separated from the picture film, the picture will occupy the full width of the 35mm aperture. In most cases, the 3-dimension sound will be recorded on magnetic film, in three separate tracks, as picked up by three microphones placed strategically in or above the set.

Although closeups are reproduced dramatically in CinemaScope films, fewer may be needed because medium shots of actors in groups of three and four show faces so clearly that the most minute emotions and gestures are obvious.

In the beginning, it is likely that most CinemaScope productions will be basically outdoor spectacle dramas. This will go a long way toward solving the lighting problem—which undeniably will be great when it comes to shooting the large wide-angle sets indoors on the sound stage. Also, it is likely there will be less emphasis on effect lighting, admittedly not so important where films are shot in color.

CinemaScope poses a number of prob-

lems, too, for the film editor. One studio cutter said CinemaScope will make necessary a special horizontal enlarging lens for Moviolas, which will enable cutters to view CinemaScope film with the image fully unscrambled or rectified. Film cutting problems in the new medium, he said, will not be as great as was at first expected because there won't be as many cuts in CinemaScope films as with standard productions. C-pix will be like stage plays where the spectator visualizes closeups and medium shots when he focuses his individual attention on the principal player or some specific bit of action.

Where closeups are necessary, he went on to say, it is likely that these will be photographed with the player just a little to the right or to the left of the frame center—not too far to one side nor with part of the frame blacked out, as has been practiced in some other wide-frame systems.

The cutting of the stereophonic sound tracks, perhaps, will pose one of the greatest problems for cutters, for unless the scene is properly composed both for sound and picture, cuts may occur at the very highpoint of, say, dialogue coming from the extreme right of the screen, with sound for the succeeding cut jumping back to the extreme left of the screen.

In the beginning, film editors will

## Anamorphoscope Lens Not New—Goerz-American Marketed One For 16mm Movies Back In 1931

LIKE STEREOSCOPIC MOVIES, which are now sharing the spotlight along with CinemaScope, wide screen movies are not a new discovery. As with stereo movies, they have simply been rediscovered after having been introduced publicly—about 20 years too early. The C. P. Goerz-American Optical Company placed on sale in the early thirties the Staats-Newcomer-Goerz "Cine-Panor" lens for 16mm movies, which the company stated then "takes and projects a 50% wider picture."

The lens was the development of Dr. Sidney H. Newcomer, a New York physicist and mathematician. Describing the lens in an article in the *American Cinematographer* for May, 1931, Fred Schmid, then vice-president of Goerz, stated: "This new lens consists entirely of cylindrical lens elements instead of spherical lenses of the regular photographic lens. It does not produce an image by itself, but has to be used in conjunction with the regular photograph-

ic lens of the camera when taking wide-field pictures. In the same way the same lens must be used in front of the projection lens when screening the films photographed with it . . . This same principle of producing wide-field screen pictures with standard 35mm cameras and projectors can be adapted for the professional screen as well by making the auxiliary lens system of suitable size. That it hasn't been done is most likely due to the uncertainty in the minds of motion picture producers whether, under present economic conditions in the motion picture industry, the time is opportune for introducing this new feature." (There was a depression on at that time, remember?—EDITOR).

Despite the potential promise it held, the Cine-Panor, it is reported, was withdrawn from the market shortly afterward due to some patent difficulties. It is understood, though, that Dr. H. H. Newcomer retains control of the same lens system for 35mm films.



have to feel their way cautiously, as indeed will all other technicians. There will be a greater need for unstinted co-operation between the production planners, the director, cameraman and cutter, in order to effect the smoothest possible result on the screen.

Of great importance to the viewer, there is no distortion of images in CinemaScope pictures from any seat in the theatre. Screens, specially developed for the new system for extra brilliance, may be any length desired to fit any theatre. The screen used for projecting tests at 20th Century-Fox studios is 64 feet wide and 25 feet high. A theatre like New York's Roxy would probably use one 80 feet long with proportionate ratio of height to width. The screen curves to a depth of five feet—enough to afford a feeling of engulfment without reflecting annoying highlight from one curved end of the screen to the other, as deeper curving screens are said to do.

Due to the immensity of the screen, few entire scenes can be taken in at a glance, enabling the spectator to view them as in life or as one would watch a play when actors are working from opposite ends of the stage.

Commenting on CinemaScope, following a series of test screenings at the studio, director of photography Joe MacDonald, ASC, said: "People will see things they've never seen before. When you look at CinemaScope it's like taking off blinders. It gives all the three-dimensional feeling that people want. Every cameraman that I've talked to is enthused about CinemaScope because it will enable him to make a more substantial contribution to story-telling. Scenes will be longer and more intricate."

Supervising Art Director Lyle Wheeler had this to say: "Thanks to CinemaScope, sets will play a more integrated part in the picture than ever before. Just as on the stage, width, not depth, will represent the typical setup."

The sound implications of CinemaScope are as important as the visual ones, believes Lorin Grignon, 20th's sound engineer, who worked closely with Sol Halprin, ASC, and other studio engineers in perfecting the system. "In bringing stereophonic sound to the screen," said Grignon, "the illusion of reality will be conveyed to a degree never before realized."

Editors will be able to deliver smoother pictures with CinemaScope because scenes will be longer and there will be fewer cuts and closeups, according to 20th's film editor William Murphy.

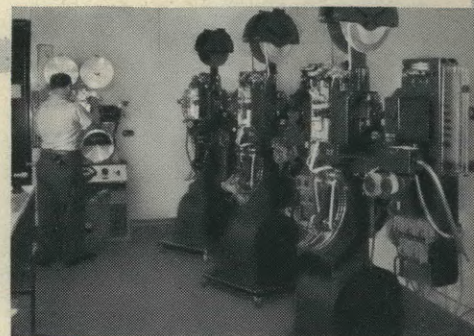
It appears that CinemaScope will make special effects photography more important to film production than ever before. Matte shots will be widely used and there is the possibility that such

**YOUR PRODUCTION DEMANDS  
THE EXCELLENCE OF**

# Precision Prints

## STEP PRINTING ELIMINATES CONTACT SHIFTS

The sharpness of a print depends on close contact between original and print stock. In step printing at Precision, the two films are absolutely stationary during exposure. Timing and effects are produced without notching original.



## YOUR ASSURANCE OF BETTER 16mm PRINTS

**15 Years Research and Specialization** in every phase of 16mm processing, visual and aural. So organized and equipped that all Precision jobs are of the highest quality.

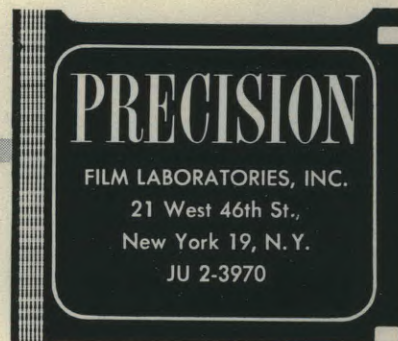
**Individual Attention** is given each film, each reel, each scene, each frame — through every phase of the complex business of processing — assuring you of the very best results.

**Our Advanced Methods** and our constant checking and adoption of up-to-the-minute techniques, plus new engineering principles and special machinery

enable us to offer service unequalled anywhere!

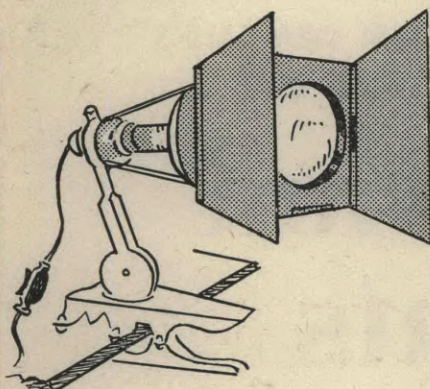
**Newest Facilities** in the 16mm field are available to customers of Precision, including the most modern applications of electronics, chemistry, physics, optics, sensitometry and densitometry—including exclusive **Maurer-designed** equipment—your guarantee that only the *best* is yours at Precision!

*Precision Film Laboratories—a division of J. A. Maurer, Inc., has 14 years of specialization in the 16mm field, consistently meets the latest demands for higher quality and speed.*





## ALLIGATOR CLAMP WITH BARN DOOR



- ★ Hangs from a nail on the wall.
- ★ Clamps to a chair, door, top of set or stand.
- ★ Sets on floor as a foot light.
- ★ Adaptable to almost everywhere.
- ★ Barn door, swivels 360°.
- ★ For R2 - R40 or Par 38 Bulbs

**Price — \$15.00**

Clamp without barn door wired with plug and switch — Price—\$5.00

Clamp only Price—\$2.75

Above unit excellent for use with  
"COLORTANS"

## SCHOEN & CROWE

403 WEST 47th STREET  
NEW YORK 36, N. Y.  
Circle 5-4691

## KELLY CINE CALCULATOR

A Sliderule Disc Computer  
Eliminates Bulky Manuals  
8-16mm and 35mm models

### 15 USEFUL SCALES

- ★ Film per second
- ★ Filters and Factors
- ★ Aperture Scale
- ★ Depth of Focus
- ★ Hyperfocal Distance
- ★ Field of View
- ★ Camera Speeds

Instruction Manual included

**\$3.95**

Write or ask Your Dealer

**FLORMAN & BABB**

70 WEST 45TH ST., NEW YORK 36, N.Y.



shots will be the answer to the building of vast panoramic sets where the action must be staged indoors on the sound stage.

Ray Kellogg, who heads the special photographic effects department at 20th Century-Fox said, "With CinemaScope, special effects will bring greater realism than ever before. To me, CinemaScope is more important to the industry today than was the advent of sound in its day."

CinemaScope is ideally suited to spectacle films in which most of the action can be played against huge outdoor panoramic vistas. Twentieth Century-Fox has chosen "The Robe" as its initial production to be made in CinemaScope, which will be photographed under the

direction of Leon Shamroy, ASC. As soon as the key sets are constructed, shooting will get under way, which will be about March 4. Shamroy has worked closely the past month with Sol Halprin, head of Fox's camera and laboratory departments, and the man most instrumental in the development of CinemaScope for the studio. Exhaustive tests have proven the system perfect in every way, and according to a studio executive, all that remains to make CinemaScope an established big-time thing in industry is volume production of CinemaScope lenses. Twentieth Century-Fox, which holds world rights to the system, except for France and its colonies, expects to have between 3,000 and 5,000 sets of CinemaScope lenses available before the end of 1953. **END**

## ALL HOLLYWOOD STUDIOS SHOOTING 3-D FILMS

(Continued from Page 110)

Peverell Marley, ASC. A second production, "Burning Arrow," also to be filmed with a Natural Vision camera, is scheduled to follow completion of "House of Wax." Features of the Natural Vision 3-D camera are described elsewhere in this issue.

Warner engineers are also working on studio's own version of a 3-D camera, but are not prepared to make a statement regarding same at this time.

**Independents**—Among the independent producers, Sol Lesser was the first to undertake a 3-D feature. Employing the stereo cameras of Stereo-Cine Corporation, Lesser started shooting at RKO-Pathé studios early in January. The Stereo-Cine equipment is produced and leased by a corporation headed by Raphael G. Wolff, Hollywood industrial film producer, and Sol Lesser. (See *American Cinematographer* for February, 1953, page 60.)

The Stereo-Cine 3-D camera consists of two 35mm Camerettes mounted opposed on a base engineered by Richardson Camera Company, Burbank. Cameras record images reflected by twin angular mirrors, having micrometer adjustments for varying convergence. Interocular spacing is controlled by turning knobs beneath each camera, which move cameras laterally as required. A single motor drives both cameras, insuring sync at all times. While cameras provide for viewing scene through taking lens during photography, precise alignment of cameras is provided by special loupes which fit in film gate of cameras when magazines are removed. A central Mitchell-type finder affords viewing scene by operator before and during camera operation.

Lippert Productions is scheduled to

enter 3-D film production March 1st with an outdoor feature in black and white. Company will employ a new and hitherto unannounced 3-D motion picture camera, designed and manufactured by Producers Service, Burbank, complete details of which are to be found elsewhere in this issue. Gordon Pollock, ASC, will direct the photography.

Nat Levine, veteran Hollywood producer-distributor has set March 15th as the starting date for his first 3-D feature. He will employ still another independently developed stereo camera—the Dunning 3-D camera engineered by Carroll and Dodge Dunning of Dunning-color Corp., Hollywood.

The Dunning is a single camera having one film magazine carrying two negatives side by side, through a singly integrated camera movement and a fixed interocular spacing of 1.3 inches.

The Dunning system has great portability. Actual weight of camera is around 68 pounds, including motor and magazines, and the blimp weighs only 30. Camera employs no mirrors. A twin-lens optical system operates in connection with an interlock which insures balanced frame by frame exposure of the two negatives. A novel finder automatically combines the two stereo images into a single composite picture.

The Dunning 3-D camera thus becomes the fifth non-studio stereo camera to be developed and made available for feature film production. Others are: Natural Vision, Stereo-Cine, Norling, and Producers Service. Still others will come to light in ensuing months—one we know of from a firm presently turning out 3-D equipment for home movies.

The cameras engineered by the major studios were, in most cases, not the re-



sult of overnight development, despite the sudden general plunge into 3-D film production. Studio engineers have toyed with 3-D intermittently over the years. One example is Paramount, which designed and built a complete 3-D camera years ago and made successful stereoscopic motion pictures with it—only to have the project shelved and the equipment put away in mothballs. The idea was good, but it was just 15 to 20 years early in coming to fruition.

Responsible for developing, testing and refining the 3-D cameras presently in use in the studios are such men as Jerry Rackett and Emil Oster, ASC, at Columbia; Loren Ryder, ASC, Farciot Edouart, ASC, Dr. Charles R. Daily, ASC, and Ferdinand Eich, ASC at Paramount; Mike McGreal and Fred Gage, ASC, at Warner Brothers; Sol Halprin, ASC, at 20th Century-Fox; John Arnold, ASC, at MGM; and Stanley Horsley, ASC, Fred Campbell, and Eugene E. Polito, at Universal-International.

Aiding these men and other studio engineers working on 3-D equipment has been the Motion Picture Research Council, Inc. The council opened its vast library of technical books and test films on stereoscopic motion pictures to the studio men. At the same time, its own research work was accelerated. It put together a series of illustrated lectures which have been given before technical men of the studios as a guide to exploration and development in the new field. Slides were shown illustrating the results that follow in 3-D cinematography under different conditions of convergence, interaxial spacing, composition, etc. Thus, technicians were shown virtually what and what not to do in 3-D cinematography, without waiting to make mistakes in actual production.

Still another contribution of the Council is the design of a handy reference circular "slide-rule" type calculator, which enables 3-D cinematographers to get desired and correct answers to problems of convergence, interaxial distance, etc., in a hurry when shooting on the set or on location. (Similar calculators also have been designed by the Polaroid Corporation, and by Raymond Spottiswoode, British stereo scientist and film producer.)

The third major contribution by the Council has been the setting up and publication of a proposed set of standards to be followed by exhibitors of 3-D films.

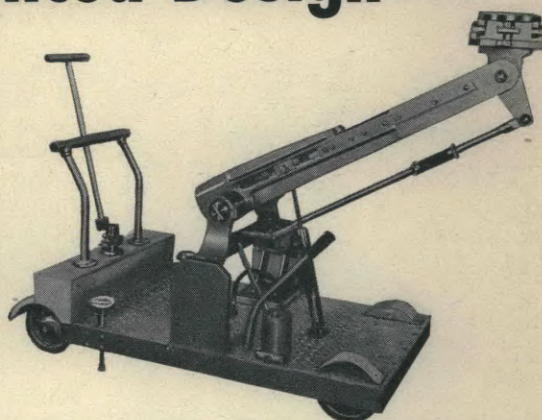
While the photography of 3-D motion pictures involves techniques little different than those followed in conventional film production, the cameraman and his assistants do need a comprehensive knowledge of the theory of stereoscopic photography, and must learn what is necessary in order to achieve satisfactory and distortionless pictures. In this

# For Instant Movability and Advanced Design

## "HYDROLLY"

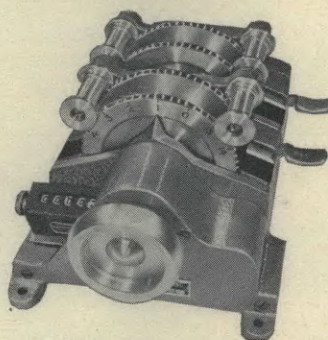
(TV or CAMERA DOLLY)

Hydraulic lift type for fast upward and downward motion of TV and Motion Picture cameras. Light-weight — sturdy — easily transported in a station wagon. Fits through a 28" door. Adjustable leveling head. In-line wheels for track use. Steering wheel and floor locks.



## SYNCHRO-FILM-ED SYNCHRONIZER

A Precision Instrument for Synchronization and Measurement of 16mm and/or 35mm Films



Any combination of sprockets assembled to your specifications. Sturdy cast aluminum construction. Foot linear type, with frame divisions engraved on sprockets. Contact rollers adjusted individually for positive film contact. Fast finger-tip roller release, sprocket shaft slip lock, complete with footage counter.

## VARIABLE SPEED MOTOR with TACHOMETER

for Cine Special or Maurer Cameras

115 V. Universal Motor—AC-DC  
Variable Speed 8 - 64 Frames  
Separate Base for Cine Special  
Adapter for Maurer Camera

### INTERCHANGEABLE MOTORS:

12 Volt DC variable Speed 8-64 Frames.  
115 Volt AC 60 Cycle, Synchronous Motor, Single Phase

*Animation Motors: Cine Special, Maurer, B & H, Mitchell.  
Motors for Bolex and Filmo Cameras. Time Lapse Equipment.*

### • Lens Coating • "T" Stop Calibration

• Designing and Manufacturing lens mountings and camera equipment for 16mm and 35mm cameras.

• Bausch & Lomb "Baltar" Lenses and others for Motion Picture and TV Cameras.

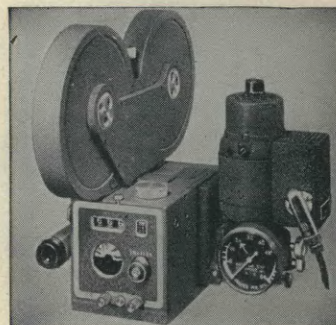
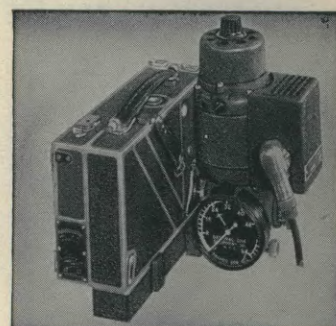
• Rentals — Sales — Repairs:  
Mitchell, Eyemo, Bell & Howell, Wall, Cine Special Cameras.

Write for information and prices

JOHN CLEMENS

ERWIN HARWOOD

**NATIONAL CINE EQUIPMENT, Inc.** 209 WEST 48th ST. NEW YORK 36, N.Y.





# ACMIOLA

## Editing Machines

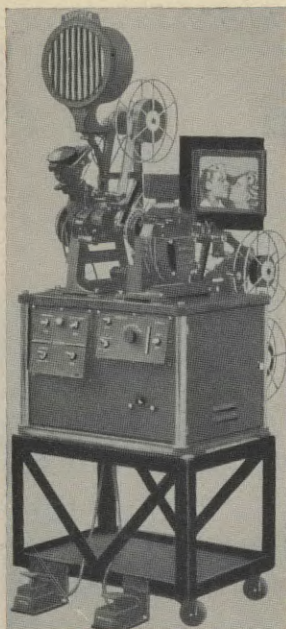
### Sound and Picture

**16mm  
and  
35mm**

**3 Months  
Delivery!**

MODEL C—  
(One of 21  
different  
types) 35mm  
Sound and  
Picture  
ACMIOLA.  
6"x8 1/2" shad-  
ow box screen,  
or larger image  
if desired.

Write for  
Illustrated  
Acmiola  
Brochure



**S.O.S. CINEMA SUPPLY CORP.**  
Dept. F, 602 West 52nd St., New York 19  
Cable: "SOSOUND"

## AKELEY CAMERA AND INSTRUMENT CORP.

175 Varick Street  
New York 14, New York  
— Established 1914 —

Designers and manufacturers of silent  
and sound motion picture cameras  
with 225° shutter opening, (288°  
shutter opening for television use),  
gyro tripods and precision instruments.  
Complete engineering and machine  
shop facilities for experimental work,  
model and production runs.

**INQUIRIES INVITED**

### PREPARE NOW FOR JOBS IN TELEVISION FILMS



One of America's top  
schools offers concentrated  
courses in TV commercial  
film making. Fully equipped  
shooting stage. Eves. Easy  
terms. Write or phone Dept.  
A. Also courses for Amateur  
Movie Makers.

**STerling 3-9444**

29 Flatbush Avenue, Brooklyn 17, N. Y.

respect, the calculators of the Research Council and the Polaroid Corp. are of inestimable value.

All of the directors of photography currently photographing 3-D features in Hollywood are seasoned studio cameramen, some with practical experience both in 3-D photography and technical development. Cinematographers credited with the photography of the 3-D features now in production are as follows: Lester White, ASC, Columbia; Bert Glennon, Warner Bros.; Peverell Marley, ASC, Warner Bros.; John Boyle, ASC, Sol Lesser; Karl Struss, ASC, Sol Lesser; Joseph Biroc, ASC, Arch Oboler; Paul Vogel, ASC, MGM; Lucien Ballard, ASC, Fox; Cliff Stine, ASC, Universal-International; and Gordon Pollock, ASC, Lippert Productions.

Three-dimension pictures, of course, will have wide-screen movies, such as Cinerama and CinemaScope, for competition. In the final analysis, it will be the theatre-going public who will decide which innovation or if both are to prevail. Then there is a good chance that wide-screen will successfully be combined with stereoscopic photography. One studio engineer reportedly already

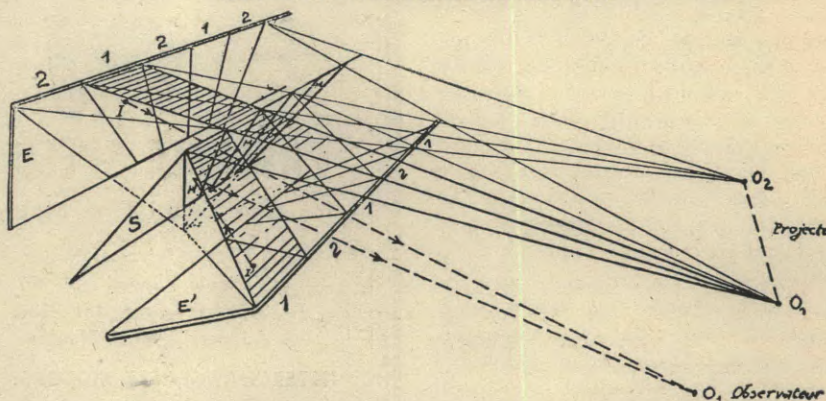
has demonstrated a wide-screen 3-D picture 60 feet in width having comparable wide-screen ratio of height. This, shot on regular 35mm film. This same studio is said to have its own version of the anamorphoscope lens, which it is using in its explorations of wide-screen 3-D films.

With most studios in Hollywood, activity in 3-D is so tense and in a state of flux, few technical men are able to make definite commitments regarding studio plans or developments. With some studios, plans change hourly; new developments are arrived at and new equipment perfected, all of which constantly changes the picture as a whole.

But in the final analysis, 3-D is basically a photographic problem. It has remained for the cameramen, the heads of camera departments, and other technical men closely related to the photography of films to bring 3-D pictures to fruition in the current and sudden trend of the industry toward stereoscopic picture production. New developments and startling innovations are bound to follow, and it will pay all those interested in this phase of film production to keep close watch on Hollywood in the near future. **END**

## A New Approach To 3-D Movies Without Viewers

(Reprinted from British Journal of Photography)



French engineer's reflecting-raster for screening 3-D movies may be answer to the Polaroid spectacles problem.

Everyone may take stereoscopic motion pictures and, if particular arrangements of the binocularly disposed lenses and reflectors show considerable inventive ingenuity, the basic arrangements from which they are derived are soundly practical and the result is never in doubt.

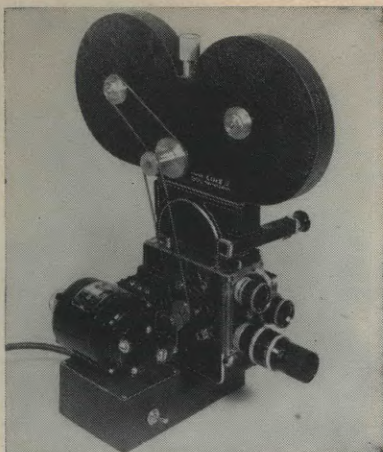
When we pass, however, from the camera to the projector—from the taking stage to the receiving end—extremely acute difficulties arise immediately when it comes to a matter of distributing a three-dimensional image (or pairs of images) to the audience, without utilizing individual selective aids such as polarizing filters, color filters, blinking devices, or similar accessories

located in the view-path of each observer.

With one or two exceptions (such as Dodin's concave mirror screen described in American Cinematographer for July, 1952), almost all attempts towards providing twin aspect beams from the projection screen depend on vertical rasters, or rasters of lenticular form (cylinders, rods, facets, and so forth) whereby the two pictures are separately directed or occluded, so that each eye sees only its appropriate view.

We have had fixed rasters, inclined rasters, conically disposed rasters, rasters of wire, of plastic, and, of course, rasters in rotary motion. Nobody has yet proposed to oscillate the audience





## NOW! A 400-foot Magazine Unit for Your BOLEX Camera

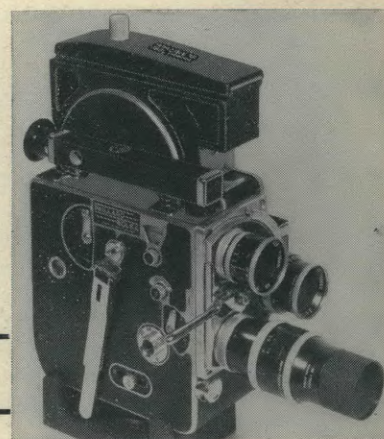
This scientifically engineered unit with 400-foot external magazine, designed by Toledo Cine Engineering exclusively for use with the BOLEX Camera, permits a continuous run of 400 feet (11 minutes at sound speed) and with the aid of a change bag can be unloaded and loaded on location. If desired the 200-foot daylight loading spool may be used in the 400-foot magazine. The 100-foot daylight loading spool can be used in the camera without removing the external magazine. Rolling film plate inside each magazine guarantees against film scuffing. View at left shows unit in position on the BOLEX Camera.

### Unit is Complete With One Mount for Motor and Camera

Complete unit consists of a saddle block permanently mounted to the camera; one 400-foot film chamber with light trap that attaches to saddle with ONE easily accessible screw; electric motor with single mount for motor and camera; 12 feet of heavy duty rubber covered lead cord and sturdy carrying case. Camera mount has 'reverse' and 'on and off' switch.

View to the right shows camera with magazine removed for light weight work where 100 feet of film is required. This can be done in a few seconds. Just replace magazine with light-tight cap. Remove base and motor with ONE screw in camera base. Replace gear box and footage counter with the rewind handle by removing ONE left hand screw.

*Let us send you complete information on this new unit. Or contact your BOLEX dealer.*



#### TOLEDO CINE ENGINEERING

1309 MILBURN AVENUE

TOLEDO 6, OHIO

by way of a change; but even that might follow, if the result appeared promising. This is not intended to be funny; but rather to show the difficulties against which inventors and investigators have struggled to find a 100 per cent successful method.

A new approach to this problem is now offered by a French engineer and B.Sc., Mr. Alexandre Filippi (*Photo-Cinema*, Feb., 1952). In this Filippi procedure we are back again amongst rasters, but the inventor proposes certain novel features, including a reflecting raster. An important factor in this new arrangement would be lighting efficiency. Not only the inconvenience of polarized spectacles but also their wastage of light would be eliminated. Likewise the inevitable light loss where one half of each projected image is suppressed by the masking of the rasters of the alternative aspect.

The Filippi method operates along the following lines:

If we consider a plane grid or raster with black opaque and relatively wide bars (say, of one half inch width) viewed from a distance of 30 feet or even more, we should find that grid unpleasantly evident to the sight. But by forming the rasters into reflectors (making them of plane mirrors, as by

*(Continued on Page 139)*

## C. ROSS

FOR

### LIGHTING EQUIPMENT

**Inkie and Arc Lamps including Required Accessories**  
Generators—Cables—Boards—Boxes

**Raby Camera Crane—Dollies—Blimps—Geared Heads**

### GRIP EQUIPMENT

FOR LOCATION AND STUDIO

**Parallels—Steps—Platform Ladders**  
**Century Stands—Reflectors—Flags—Scrim**

**SOLE EASTERN MOLE-RICHARDSON CO. DISTRIBUTOR**  
**RENTALS • SALES • SERVICE**

## CHARLES ROSS, Inc.

333 WEST 52nd STREET

NEW YORK 19, N.Y.

Circle 6-5470-1



## PRACTICAL FILMING TECHNIQUES

(Continued from Page 129)

for each film, though the distant background remains identical. In more complicated matte shots such as ceilings, where fairly close architectural objects at many planes are required, the "foreground miniature" technique may be followed. Miniature settings will require that the interocular be less than normal.

To assist cinematographers in arriving at the correct interocular distance for photographing a given miniature set, the following formula has been established:

$$S = \frac{2\frac{1}{2} D^*}{D}$$

S is the separation between the lenses in making the stereoscopic pair. D is the visual distance to which the object is apparently to be brought, and D\* is the actual distance of the object.

The following table shows how far the interocular of the lenses must be separated for conditions of miniature photography (or inserts, etc.) to give the stereoscopic effect. The first column represents *in feet*, the distance from the camera to the object being photographed. The top row shows the spacing of the lenses, *in inches*, necessary to place the object visually for the stereoscopic effect desired:

Interocular:	1"	1½"	2"	2½"	3"
Distance					
100	250	166.6	125	100	83.3
75	187.5	125	93.7	75	62.3
50	125	83.3	62.5	50	41.6
25	62.5	41.6	31.7	25	20.8
10	25	16.6	12.5	10	8.3

For example: to photograph a miniature ship that is 50 feet from the lens so that it will appear to be 125 feet away, the interocular of the lenses must be only one-inch apart. Likewise a separation of 1½ inches will give the apparent distance of 83.3 feet, etc. Separating the lenses greater than normal will bring distant objects apparently closer; that is, an object 100 feet away at the normal separation of 2½ inches, will appear to be only 83.3 feet away if the interocular is 3 inches; 62.5 feet at four inches, etc. This adjustment may be helpful when telephoto shots are required.

The above shows how important is the proper spacing of 3-D lenses for special effects as well as for normal three-dimension reproduction. Those cameras which permit of only excess separation cannot but produce abnormal and distorted stereoscopic pictures. Much of the objection to 3-D films that is now blamed on the viewing glasses actually is not due to the glasses, but to error in filming in the first instance.

Now that three-dimensional films apparently are here to stay, it behoves our camera manufacturers to make available double-film cameras having adjustments for convergence and lens-separation, so that the problems of producing stereo films may be technically improved. All that can be done for the present is to use make-shift, double-camera equipment.

I have indicated that eventually Polaroid glasses will improve from the present give-away cardboard affairs to better types with broader, more comfortable vision. It is also to be hoped that the conventional theatre screen will assume larger proportions for 3-D, for the stereoscopic effect is improved as the screen approaches the more normal scope of vision. Today we are witnessing a gradual freeing of the old concept that the screen must be surrounded with a black velvet border hung in a black hole. This has long been responsible for color films appearing more garish than they really are, and on the whole such screens produce an unnatural intensified effect. With the current trend toward wide screens, part of the realistic effects of the latter can be applied here as well, and we will diminish the unnatural illusion of looking through a small window.

Because the field of vision of normal eyesight greatly exceeds the proportions of the usual movie screen, there is a trend to present a wide screen picture that more naturally approaches human vision. The great success of Cinerama is due to what is known as "surround." That is, the spectator is surrounded with a huge picture. While the center portion may contain the principal objects of interest, still the viewer is free to scan the side areas and thus gain a truer conception of his surroundings. Combined with stereophonic sound, the effect is truly astounding and unquestionably is an emotional thrill. The mechanical problems and very expensive installation costs of Cinerama may retard its rapid application in our theatres. Meantime, inventors have been quick to produce another excellent system that produces much of the same effect with very little expense and alterations of the theatre. I refer to the device now known as CinemaScope, which is described elsewhere in this issue. In practice a regular 35mm camera is fitted with a concave compression lens over the standard lens. This extra lens compresses the image in a lateral dimension only, the height not being altered. The projector is fitted with a de-compression lens and the picture is thus expanded to normal proportions again. Using a very wide screen to obtain the "surround effect," a picture is produced by a combination of the extra lens and a wider angle projection lens that fills the screen with picture. As only one camera and one

projector are involved, there is a minimum of mechanical unsteadiness and no distortion whatever. As stereophonic sound is also used with this method, the sound tracks are on a separate film, permitting the camera and projector to utilize the full film aperture, which at present is shared with the sound track.

While this method makes no claim to being a true 3-dimensional picture system, a certain roundness is obtained due to the size and curvature of the screen, and an illusion of reality is created by the stereophonic sound system. At any rate a new dimension in movies is brought to audiences and it may capture their interest for some years to come.

The CinemaScope films made so far indicate that no great change of filming techniques are to be encountered. Boom, traveling and panoramic shots present no problem mechanically. These will have to be much smoother than in the past because the new, huge dimensions exaggerate such lateral movement due to the wider field. Tilting up or down produces no distortion. Pan shots will be less used for it will be more effective to see and hear the characters move across the screen than to pan with them and thus keep the sound emanating from the center sound speaker. Because of the vastness of the picture, great detail is seen, so it will be unnecessary to make individual closeups to put over facial expression. Two-shots and even four-shots are much more effective in CinemaScope, for the composition is better balanced and the sound sources behind the screen are used to best advantage.

It does not necessarily follow that all sets for CinemaScope will have to be larger with this new screen proportion. True, we will encompass more of the set but instead of panning the actors across, we will allow them to cross the screen and perhaps move in to medium and closer shots, as the action requires. Likewise the sets do not have to be higher than at present. This proportion lends itself to new and interesting compositions, and foreground objects will be utilized for depth illusion.

All the new methods of 3-D and wide-screen movies currently being developed promise a re-vitalization of the motion picture industry. Judging from past experience, audiences will again be attracted to the theatres to participate in the new thrills and novel ways of story telling that await them.

Here again is another example of the engineer and cinematographer leading the motion picture industry to new horizons. The artistic and emotional stimuli that can be conveyed by the director of photography in these new mediums is a challenge that will not be found wanting.

END



## 3-D MOVIES WITHOUT VIEWERS

(Continued from Page 137)

suitably removing intervening bands of silver from an ordinary mirror, or by utilizing polished metal strips on a flat mounting) then we have a raster system without black separating bars and one which will also reflect those portions of the beam which are incident on it. Such a reflecting raster is shown at **S** in the diagram.

Rays which were absorbed and became a total loss—geometrically and physically—with the black grid, are now reflected and can be utilized to form the other aspect of the picture on a second screen, **E'**, arranged symmetrically with regard to the first, background screen **E**.

Given the two picture aspects as projected from positions **O<sub>1</sub>** and **O<sub>2</sub>**, the viewer at **O** perceives, (1) through the gaps in the reflecting raster **S** the picture strips on the back screen **E** and (2) through the reflectors, the strips of pictures received on the second screen **E'**. These strips of the second aspect are exactly those which were absent from the first view and thus a complete view of both aspects is secured.

In effect, the viewer perceives the back screen directly and superposed on it the virtual image of the second screen **E'**. Certain residual imperfections remain to be eliminated and this will be developed later. At this stage it may be useful to observe that the provision of a grid or raster which combines the functions of an occluding means (hiding the unwanted picture aspect) with the active function (reflecting the alternative picture aspect) has the result that a more uniformly illuminated surface is presented to the viewer; whereas in a simple, non-reflecting raster system one half of each image is absorbed and contributes nothing to the overall illumination.

Furthermore, and this is possibly another advantage which follows from the preceding effect, with evenly illuminated rasters filling the whole field of view, the actual widths of the bars may be greater than where the aspects are discontinuous with intervening black bars, without their presence becoming noticeably detrimental to viewing comfort. **END**

## HOLLYWOOD BULLETIN BOARD

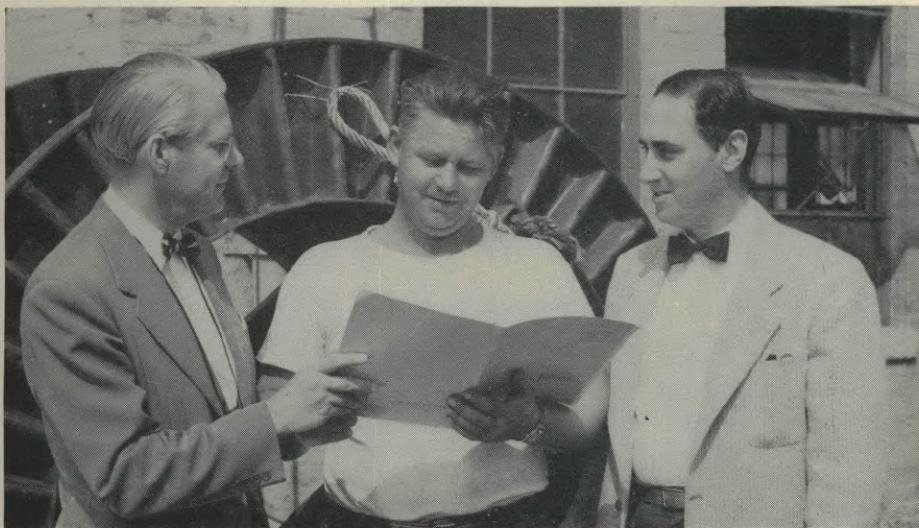
(Continued from Page 102)

**PAUL VOGEL, ASC**, who worked with John Arnold, ASC, in making exhaustive tests of MGM's new 3-D camera, was assigned to shoot studio's initial stereo feature, "Arena" in AnscoColor.

**INADVERTENTLY** we omitted the "ASC" after the name of Joseph Ruttenberg when listing him in this column last month as one of the directors of photography voted a candidate for nomination

for an Academy Award. This is just to let readers know that Joe still is a member of the ASC—in fact is a Member of the Board.

**IN THE SAME ISSUE** Sam Leavitt's name appears as "Levinson"—for which we apologize. Gremlins we got! Sam photographed "The Thief," contender for an Award for black-and-white photography.



**OLLE COMSTEDT, ASC**, (l) who directed photography of "Chuck Hansen—One Guy," for D.P.M. Prod., N. Y., discusses script with one of cast and director **MAURICE T. GROEN** (r). Production aims to promote anti-discrimination in industry employment.



## Add a VARIABLE SHUTTER UNIT

To your Bolex H-16

The type of shutter, standard for all professional movie cameras.

- Full range from **open** to **closed** at any camera speed.
- 3 convenient intermediate stops,  $\frac{3}{4}$  open,  $\frac{1}{2}$  open and  $\frac{1}{4}$  open, enable you to expose from 1/18 sec. at true 8 f.p.s. at **open** to 1/560 sec. at  $\frac{1}{4}$  open at true 64 f.p.s.
- Make complete transition lap dissolves any-time.
- Fade-ins and fade-outs at your fingertips.
- Neutral density filters no longer needed when filming outdoors with fast film.
- Audible warning sound when shutter in **closed** position when filming forward or hand-cranking either way.
- Avail yourself of the many other advantages obtainable only with a controlled variable shutter speed.
- Give your next movies that sparkling professional touch.

### PRICES (within U.S.)

Cameras with inside frame counter...\$ 99.60  
With the Yolo automatic dissolve attachment (for H-16 with built-in frame counter only) \$57.00 extra.

Cameras with outside frame counter...\$109.80

Price includes camera transportation back to you, insurance coverage, and one year guarantee.  
(Local and state taxes where applicable, extra)

Send for free detailed informative booklet, "Variable Shutter Units for Bolex H16"

**TULLIO  
PELLEGRINI**

1545 Lombard Street  
San Francisco 23, Calif.



## SPARKLING COLOR FOR YOUR PRINTS

Expert timing by color craftsmen plus the careful attention accorded your film in our famous "personalized service" will give you unsurpassed prints whose brilliance makes them alive on the screen.

Write for Information

Dept. C-11

**TELEFILM, INC.**

6039 Hollywood Boulevard  
Hollywood 28, California

## Ready-Eddy

Trademark

**QUICK ACCURATE  
FOR EVERY DAY USE**

1001 Ready Sound-Film

Editing Data:

- Footage • Frame Count
- Screen Time • 35mm and 16mm equivalents.

Plastic computer for every one in movies and TV, from script to screen.

**\$2.00** Prepaid

(Delivered in U.S.A.)



Worth many times its price.

WRITE or ask your dealer.

**READY-EDDY, Sandy Hook, Conn.**





**Endorsed...**

by the

**WORLD'S LEADING  
CAMERAMEN**

Used At All

**Hollywood Movie Studios**

**7th Edition**

**NOW AVAILABLE**

**IMPROVED!**

**ENLARGED!**

**REVISED!**

with

**TELEVISION**

**PHOTOGRAPHY DATA**

plus

**NEW CHARTS  
and TABLES**

The Book of a Thousand Answers  
to Photographic Questions

ORDER YOUR COPY TODAY!

PRICE **\$5.00** POSTPAID

Book Department,  
American Cinematographer,  
1782 No. Orange Dr.,  
Hollywood 28, Calif.

Gentlemen: Enclosed please find \$5.00\*  
for which please send me a copy of  
THE AMERICAN CINEMATOGRAPHER  
HANDBOOK AND REFERENCE GUIDE.

Name .....

Address .....

City..... Zone..... State.....

\*If you live in California, please in-  
clude 18c sales tax — total \$5.18.

## 3-Dimension Optical Effects

By GEORGE BURTT

NATURAL VISION Corporation's first 3-D feature picture is deservedly hailed as a pioneering venture into the new realm of 3-dimensional motion pictures.

Solving successfully the many problems involved in linking two cameras to shoot not-quite-identical films of the same scene so as to give the stereoscopic 3-D effect when projected, reflects tremendous credit on the technical people behind Natural Vision, the developer of the Polaroid 3-D process.

However, not all the problems connected with bringing this first feature to the screen were solved in the camera and projector systems. The lab and optical effects people did a good bit of the pioneering too.

About 3000 feet of the eight-reeler required effects of one kind or another—actually, 6000 feet, since the second camera doubled the footage. But complicating factors multiplied the amount of film stock required astronomically, as Cinema Research Corporation, who were given the optical effects contract, soon discovered. And to top it off, a time limit of 2½ weeks was set for completion of all effects.

Briefly, this is the problem Cinema Research and Consolidated (who did the lab work) were faced with:

The most obvious problem—that of keeping the two original negatives synchronized frame for frame—was solved

by a careful coding system.

But the filming was done on Ansco Color stock. Thus in order to arrive at the final duplicate negatives embodying the optical effects it was necessary first to make separation master positives. A scrupulous watch had to be kept on all three positives for the left-hand camera and the right-hand camera simultaneously to make certain gamma contrasts were maintained at the specified levels.

When the six separation master positives were recombined to give the two dupe negatives required, further complications arose. Constant care was exercised to keep the positives in register, with a perfect match between the two resulting negatives. In addition, fades, dissolves, optical zooms and other effects had to match perfectly—involving the three positives for each dupe negative, or a total of six.

Though only 3000 feet was involved, in order to process it about 18,000 feet had to be handled and kept in balance and in sync frame for frame.

Cinema Research was able to salvage some scenes where right-hand and left-hand scenes did not match perfectly in the original negatives. By first registering both scenes, then optically printing only the areas of the negative common to both, a satisfactory solution was reached and re-shooting avoided. **END**

## WHAT'S NEW IN EQUIPMENT, ACCESSORIES

(Continued from Page 96)

ers; mount for camera and motor; off-on switch; 12-ft of HD cable; and heavy-duty fiber carrying case.

Addition of external magazine permits use of 100- or 200-ft. rolls of film, as well as the full 400-ft. rolls.

Literature is available. Please refer to *American Cinematographer* in your request.

**3-D Magnasync Sound**—Magnasync, P.O. Box 707, No. Hollywood, Calif., announces a 3-channel stereophonic sound system which consists of master recorder with three master recorder-amplifiers and interlocked tandem mixers. Theatre playback system has identical film transport and matched-head system with pre-amplifiers, and provides facilities for interlocking with theatre projection equipment.

Further information may be obtained by writing the manufacturer and referring to *American Cinematographer*.

**Film Cleaner**—A ten-day free trial of the Ecco Speedrol film cleaner is offered by the manufacturer, Electro-Chemical Products Corp., 60 Franklin St., East Orange, N. J. Device permits cleaning film static-free as you inspect it when set up in the line of film travel between two rewinds. At same time film is conditioned for longer life. Some advantages claimed for system are as follows: stops dirt attraction by static; eliminates waxing; reduces surface friction; conditions green prints; uses no carbon tet; treatment cannot be seen or felt.

For more complete information, write manufacturer, mentioning *American Cinematographer*.

**Hallen Stereo-sound**—Hallen Corp., 3503 West Olive, Burbank, announces that all model Hallen magnetic recorders are adaptable to either binaural or stereophonic sound—the 16mm and 17½mm recorders for binaural, and the 35mm

(Continued on Page 142)



# CLASSIFIED ADVERTISING

RATES: 10c per word—minimum ad \$1.00. Words set in capital letters, 15c per word. Display format 90c per line.

## STUDIO & PROD. EQUIP.

### MORE SPECIALS FROM S.O.S.

NEW AURICON 400' PRO-LOAD type Sound Camera, complete .....\$1,390.00  
MAURER LATE MODEL CAMERAS with syncmotor, rackover magazine, sunshade, filter holder, like new..... 3,495.00  
NEW 1500 Watt FRESNEL SPOTS with 8" compressor ..... 39.50  
EYEMO NEWSREEL CAMERAS Mod. thru 71K less lens ..... 149.50  
EYEMO SPIDER TURRET Newsreel Cameras, Mod. 71-0 with one lens..... 595.00  
MOVIOLA UPX 35mm Composite sound/picture with separate soundhead. Worth \$1,800.00. Rebuilt ..... 1,350.00  
DEPUÉ 35mm DOUBLEHEAD Sound & Picture Printer. Rebuilt ..... 2,950.00  
NEW FILM EDGE NUMBERING MACHINES, 16 or 35mm ..... 1,995.00  
SCHUSTEK (B&H) OPTICAL 35/16 Pix Reduction Printer, reb ..... 2,995.00  
NEW PROF. TITLER & Accessory Kit, \$250 val. .... 159.50  
WALL MOVIE TONE 35mm Single System outfit, \$7,000 val. .... 3,995.00  
RCA R3 OLD TYPE 35mm Recorder w/oil damped galvanometer, 1000' magazine & amplifier. As is ..... 995.00  
BOLEX VARIABLE SHUTTER attachment, new, from ..... 99.50  
NEW COLLUX COLOR Temperature Meter. Reads Kelvin, foot candles. Compact 2 1/2" face, compl w/6 filters, case ..... 275.00  
ANIMATION STAND w/DeBrie pilot pin 35mm Camera, dissolve, Acme 5 speed stopmotion motor, counter, etc. .... 1,495.00  
CASH PAID FOR USED EQUIPMENT.  
TRADES TAKEN.

Dept. f Cable: SOSOUND  
S.O.S. CINEMA SUPPLY CORPORATION  
602 W. 52nd Street New York 19

## FOR SALE

### PRODUCTION EQUIPMENT

AURICON SUPER-1200 Sound camera in stock. Fully equipped, immediate delivery.  
AURICON PRO sound camera, auto-parallax finder, amplifier, all accessories \$1,195.00  
AURICON Film recorder, amplifier..... 450.00  
CINE-SPECIAL II, reflex finder, side finder, 25mm Ektar f1.4 lens, like new 995.00  
BOLEX H-16 camera, three lenses..... 295.00  
ARRIFLEX Model II, three Astro lenses, two 200' magazines, sunshade, case.... 995.00  
EYEMO model 71A, two lenses..... 275.00  
CECO three wheel dolly ..... 195.00  
HEAVY DUTY friction head tripod..... 165.00  
CAMART TV MIKE BOOM ..... 297.50  
CAMART leg-clamp triangle ..... 26.00  
CAMART SLATE & Clapstick ..... 10.95  
PAN-CINOR 16mm ZOOM LENS IN STOCK.  
ATTN: ALL NEW TELEVISION STATIONS:  
Complete line synchronizers, sound readers, viewers, editing equipment for your TV Film and newsreel department.

BUY—SELL—TRADE—16mm-35mm EQUIPMENT  
THE CAMERA MART, INC.  
1845 BROADWAY NEW YORK 23, N.Y.  
CIRCLE 6-0930

PROCESSING Equipment tanks, racks, drying drums, rewinds, photo chemicals, cheap. Write for details, Box 1168, AMERICAN CINEMATOGRAPHER.

1 MOD. 2 CINE SPECIAL camera with 200 magazine, 1 Micro, latest model splicer. FILM ASSOCIATES INC., Dayton 9, Ohio.

PROCESSING MACHINES AND PARTS. All sizes film rollers in stock. Chemical pumps, Mixing tanks, new and used.

### METAL MASTERS

Division of Wall Laboratories  
4584 68th St., San Diego 15, Calif.

NORM JACOT'S 1953 Rose Parade in color, as low as \$15.00—8mm; \$30.00—16mm; 400'x16mm. Sound, color \$80.00. BOX A572, Manhattan Beach, Calif. Frontier 4-6916.

## FOR SALE

BASS . . . Chicago. Cinema headquarters for 43 years offers money saving buys in guaranteed used equipment. Zoomar 17mm. to 60mm. lens, "C" mt or Cine Special mt. with close-up attachment. List \$1,650.00. Special \$750.00; Bolex H-16, 1" Wol. F:1.5, 3" Wol. F:3.5, 15mm. Wol. F:2.7, case. \$425.00 value, for \$225.00; Cine Special I, single sprocket, image reflex finder, 1" F:1.9, 6" F:4.5, 15mm. F:2.7, case. \$1,200.00 value for \$525.00; 16mm. Kodak Magazine, F:1.9, case \$92.50; B. & H. 70DA, 1" F:1.5 Wol., 2" F:3.5 Telate, 15mm. F:2.7 W. A., case \$225.00; Natco Model 3031, 750 watt, 2000 ft. reel cap., \$450.00 value for \$199.50; Standard Eyemo 35mm. 3 speed. hand crank, 1 3/8" F:2 Cooke, case \$227.50. Best buys . . . Best trades always. **BASS CAMERA CO.**, Dept. 179 W. Madison St., Chicago 2, Ill.

Bell & Howell 35mm. Standard Perforator tools; some new, some slightly used:

- 6 — Punches
- 15 — Pilots
- 8 — Dies Complete

### BEST OFFER

**ALPINE CAMERA CO.**  
4119 W. North Avenue Chicago 39, Ill.

WE BUY, SELL AND RENT PROFESSIONAL AND 16mm. EQUIPMENT, NEW AND USED. WE ARE DISTRIBUTORS FOR ALL LEADING MANUFACTURERS. RUBY CAMERA EXCHANGE, 729 Seventh Ave., New York City. Established since 1910.

AUDIO AKELEY single system sound camera complete with Akeley sound head, Gyro tripod, 3 lenses, view finder, Maurer mixing amplifier. Complete with cables, power supply and W. E. microphone. **CAMERA EQUIPMENT CO.**, 1600 Broadway, New York 19, N.Y. Cable Cinequip.

BARDWELL-McALISTER lighting equipment. Accessories. Feed Cables. Spider Boxes. Gobo clamp attachments. Alligator clamps with barn doors. SCHOEN & CROWE, 403 W. 47th Street, New York 36, N.Y.

16MM DOUBLE film feed systems—sync projectors. Sales and service on all types of motion picture equipment. SUBURBIA FILMS, 1650 John Street, Fort Lee, N.J.

16MM NEWSREEL negatives and fine grains G.O.P. and DEM. conventions, 12,000' sound and silent. Complete coverage. Box 1164, AMERICAN CINEMATOGRAPHER.

16MM HOUSTON processing machine. Model KIA. Like new. List \$5,500.00. Bargain at \$3,500.00. **CAMERA EQUIPMENT CO.**, 1600 Broadway, New York 19, N.Y.

## FOR SALE

AURICON PRO Single System Sound Camera 16mm variable area, reduction noise amplifier, complete with microphone, batteries, headphones, etc. Auto Parallax view range finder, portable power supply, Auricon professional tripod. All like new. Only \$1750.00. **CAL WILLIAMS**, 2521 F Street, Bakersfield Calif. Phone 3-2112.

BELL & HOWELL 70H—5 lenses with matching viewfinders; 2-400' magazines; 2 motors; large case with cover; new batteries. Excellent condition, used only 3 months. Call Hollywood 9-8023 or write Box 1169, AMERICAN CINEMATOGRAPHER.

1 BELL & HOWELL Filmosound-202 extra Power Speaker.  
1 Filmo Model 70 H. 400-ft. magazine Sync Motor 3 lenses. Factory Guarantee. Like new.  
1 Carter Power Plant highest offer. Write Box 53, ALTADENA, CALIF.

CINE-SPECIAL II, has run 5000 ft. film. Ektar F1.4; extra 100 ft. magazine; Optical side finder; sports finders. Guaranteed absolutely top quality—by the seller. **BAKER DRUG CENTER**, Baker, Oregon. Best offer takes it. Consider no less than \$750.00.

COMPLETE LINE of books on Motion Pictures: Camera, Production, History, Aesthetics, Sociological, etc. Send for free list. **LARRY EDMUNDS BOOK SHOP**, Dept. A, 1603 Cahuenga Blvd., Hollywood 28, Calif.

GERMAN AERIAL camera uses 80mm. perforated film (available from Eastman) 125 mm. F/2 Schneider Xenon lens and filter, in perfect shape, \$125.00. **SAMUEL KRAVITT**, 1096 Chapel, New Haven, Conn.

HALLEN 16MM SYNCHRONOUS Magnetic film recorder. Two weeks old. Never used. Model 25B16. Two microphone input channels. \$1,395.00. Box 1167, AMERICAN CINEMATOGRAPHER.

HIGH SPEED CAMERA, Eastman Type III, In Perfect Condition with 63 Ektar lens, Trunk, and Accessories, \$1,350.00. **McLARTY PICTURE PRODUCTIONS**, 45 Stanley St., Buffalo, N.Y.

BERNDT-MAURER MOD. H Single System sound camera with 2" Zeiss Biotar lens F1.4 and carrying case. Like new. Price \$2500.00. A. F. KLEINDIENST, Beacon Lodge, Webster, Mass.

MITCHELL NC 35 FREEHEAD TRIPOD with BOOT. Bought Sept. 1952. Used only 9 times. Like new. Call Hollywood 9-8023 or write Box 1170, AMERICAN CINEMATOGRAPHER.

CONVERTER (Motor) from 220 volt DC to 110 Volt AC. Good Condition—350 Watts. Price \$45.00. **SCHOEN & CROWE**, 403 W. 47th St., New York 36, N.Y.

## WANTED

### IMMEDIATE CASH PAYMENT FOR CAMERAS AND EQUIPMENT

NEED EYEMOS (SINGLE LENS AND TURRET), MITCHELLS, ARRIFLEX, DE BRIES, B&H STANDARDS AND HI-SPEEDS, WALLS, AKELEYS, CINE SPECIALS, AURICONS, MAURERS, FILMOS. ALSO BALTARS, COOKES AND OTHER LENSES. SOUND STAGE, LABORATORY AND EDITING EQUIPMENT OF ALL TYPES REQUIRED. PLEASE SHIP INSURED OR FORWARD DESCRIPTIONS AIR-MAIL. IMMEDIATE PAYMENT.

**GORDON ENTERPRISES • 5362 N. Cahuenga NORTH HOLLYWOOD, CALIFORNIA**

### WANTED TO BUY FOR CASH CAMERAS AND ACCESSORIES

MITCHELL, B & H, EYEMO, DEBRIE, AKELEY ALSO LABORATORY AND CUTTING ROOM EQUIPMENT

**CAMERA EQUIPMENT COMPANY**  
1600 BROADWAY, NEW YORK CITY 19  
CABLE: CINEQUIP

### WANTED

Mitchell — Akeley — B & H — Wall — Eyemo  
Cameras — Lenses — Equipment  
**NATIONAL CINE EQUIPMENT, INC.**  
209 West 48th St., New York, N.Y.

(Continued on Next Page)

# Here...

on this page, you'll find  
**BARGAINS GALORE**  
in

**New and Used Equipment**  
of all kinds

**A Good Place For YOU**  
to Sell, too!

**RATES ARE LOW—ONLY**  
10c per word



## Classified Ads

(Continued from Preceding Page)

### F&B PAYS MORE FOR USED 16/35MM EQUIPMENT

WRITE — WIRE — PHONE  
FOR OUR CASH OFFER

**FLORMAN & BABB** MU. 2-2928  
70 W. 45TH ST. New York 36, N.Y.

### WANTED

ALL 16-35MM production, laboratory, and editing equipment. From single items to complete studios. Will accept used equipment in trade.

**THE CAMERA MART, INC.**

1845 Broadway New York 23, N. Y.

### HERE'S AN S.O.S. FOR

Auricon Pros, Movielas, B & H Printers, Maurer Recorders, Lighting Equipment.

WE'LL TRADE OR TAKE CONSIGNMENTS  
SET YOUR OWN PRICE—WE'LL GET IT

Western Union Private Wire—WUX New York  
**S. O. S. CINEMA SUPPLY CORPORATION**  
602 W. 52nd Street New York 19  
Dept. f Cable: SOSOUND

MAURER 06 View Finder, Best Price Paid. FILM ASSOCIATES, Inc., Dayton 9, Ohio.

### CAMERA & SOUND MEN

NEW ENGLAND — assignments or production, sound, 16 and 35mm equipment. **SAMUEL KRAVITT**, 1096 Chapel St., New Haven, Conn.

16mm/35mm CAMERAMAN, Director, available for coverage any type in Pennsylvania, Maryland, Virginia, West Virginia, Ohio. Fifteen years experience. Excellent footage guaranteed. Best equipment. Finest references. **HUGH G. PETERS**, Winchester, Virginia.

NORTHERN and CENTRAL CALIFORNIA 16-35mm General camera work, TV backgrounds. **KEN ALLAN**, 2501 Moraga St., San Francisco 22. Lombard 4-2886.

CAMERAMAN AVAILABLE for assignment in the PHILIPPINES and nearby territories. 16 and 35mm B&W or Color. RCA sound if needed. **WILLIAM H. JANSEN, A.S.C.**, 651-B, Inverness, Santa Ana, Manila, P. I.

16MM CAMERAMAN desires permanent affiliation with TV or Commercial productions. Experienced cinematographer, sound, editing and lab. **MARCUS WHITAKER**, 319 Thuss Ave., Nashville 11, Tenn.

### LABORATORY & SOUND

SOUND RECORDING at a reasonable cost. High Fidelity 16 or 35. Quality guaranteed. Complete studio and laboratory services. Color printing and lacquer coating. **ESCAR MOTION PICTURE SERVICE, INC.**, 7315 Carnegie Avenue, Cleveland 3, Ohio. Phone ENdicott 1-2707.

### SLIDES, PHOTOS & FILMS

NATURAL COLOR SLIDES, Scenic, National Parks, Cities, Animals, Flowers, etc. Set of eight \$1.95. Sample & List 25c. **SLIDES - Box 206, La Habra, California.**

FRUSTRATED FOTOGRAFHERS! Fill the gaps in your vacation Kodachrome record. Choose from 1,000 travel scenes. Free List, sample, 30c. Write today. **KELLY I. CHODA**, P.O. Box 588, Stanford, Calif.

### ADVERTISERS—

... let us tell you how **American Cinematographer** can sell more of your products to advanced movie amateurs — the group that buys the most and uses the most amateur cine equipment and films!

**AMERICAN CINEMATOGRAHER**

1782 N. Orange Dr., Hollywood 28, Calif.

## WHAT'S NEW IN EQUIPMENT, ACCESSORIES

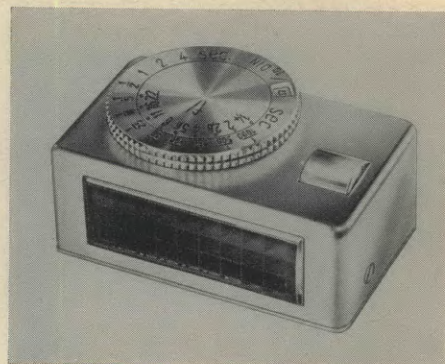
(Continued from Page 140)

for stereophonic 3-track. Conversion is effected simply by adding necessary amplification and making a minor change in the recorder-playback, according to the company.

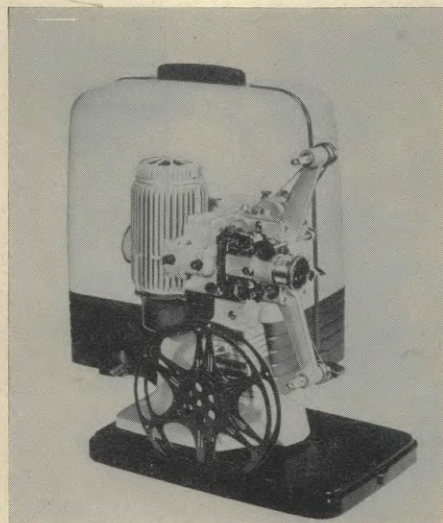
Please mention *American Cinematographer* when requesting further details.

**New 16mm Projector** — Bell & Howell Company, Chicago, announces a new 16mm silent projector priced at \$199.95. Modern styling includes a two-tone grey plastic case which slips over projector and latches to projector platform.

The new model (No. 273) is said to give a brighter screen image with a



2½ oz; size 5/8" X 1" X 1½". Meter is said to be extremely accurate under all light conditions; gives readings for shutter speeds from 4 seconds to 1/1000 sec., and provides for use with ASA film ratings from 6 to 400.



750-w lamp than other machines, which is accomplished by a straight-line optical system and a new type lamp having a more compact filament. Rewinding is accomplished without switching reels. Film capacity is 400 feet.

Company also announces improvement of its Diplomat 16mm projector to include the new style plastic carrying case at no additional cost.

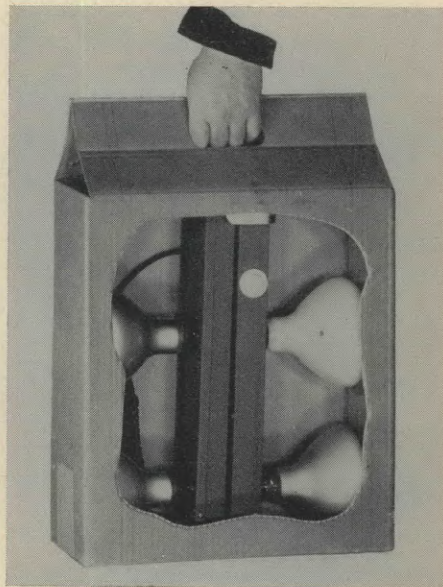
**Titles In 3-D** — Ray Mercer & Company, 4241 Normal Ave., Hollywood 29, Calif., are now turning out three-dimension titles to meet the needs of the many film producers making films in the new 3-D medium. Company is oldest established independent special effects and title laboratory on the west coast.

**Midget Exposure Meter** — Alfa Photo Corp., 303 West 42nd St., New York 36, N. Y., is U.S. distributor of the Actino C Meter, said to be the smallest photo-cell exposure meter made: weight,

**Photo Lamps** — Mayfair Manufacturing Co., 89-93 Grand St., Brooklyn 11, N. Y., offers a convenient lighting unit for indoor movie making called the Extendolite, a folding 4-lamp bracket which attaches to camera or camera-and-tripod.

An important feature is the handy carrying case pictured here which permits storage or carrying of unit fitted with photo-lamps, ready for instant use.

Rotary dimmer switch provides 3 different light levels, assuring longer lamp life. List price of \$12.95 includes dial



calculator for indoor exposures. Descriptive literature on complete line is available. Please mention *American Cinematographer*.



## "Light housekeeping . . . a necessity"

Obvious to everyone may be the fact that not enough light is getting to the screen; or that the sound system is not functioning properly.

The reasons, however, may be varied—equipment failure, inadequate house-keeping, or a drop in power output.

Aid in this type of trouble-shooting may be obtained from the Eastman Technical Service for Motion Picture Film which Kodak maintains at strategic centers to cooperate with producers, processors, and exchanges and exhibitors.



**Address:**

**Motion Picture Film Department**

**EASTMAN KODAK COMPANY, Rochester 4, N. Y.**

*East Coast Division*  
342 Madison Avenue  
New York 17, N. Y.

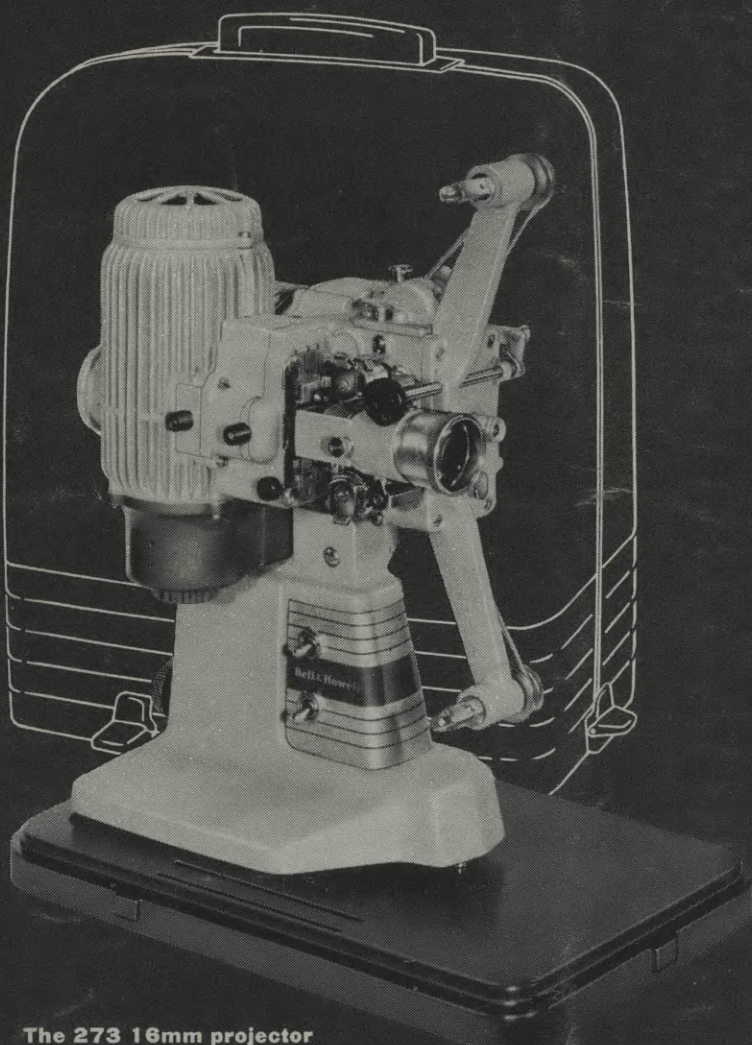
*Midwest Division*  
137 North Wabash Avenue  
Chicago 2, Illinois

*West Coast Division*  
6706 Santa Monica Blvd.  
Hollywood 38, California



# **BRIGHTEST PICTURE**

with this **NEW** 16mm Bell & Howell



The 273 16mm projector

## Check these big features:

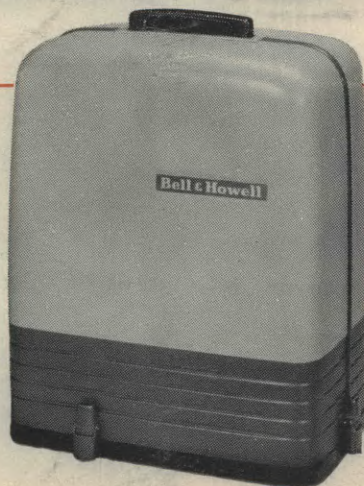
- 750-watt picture brilliance unmatched by any other make projector. New concentrated filament lamp.
- Reverse projection. Stops for still picture.
- Convenient, easy-to-use controls.
- 400-foot reel capacity. Rewind without switching reels.
- Filmocoted 2-inch f/1.6 lens interchangeable with other B&H projection lenses.

only  
**\$199<sup>95</sup>**

## **MODERN DESIGN**

Projector finished in mar-proof silver-gray. Two-tone gray case is made of Royalite, a tough thermoplastic selected for durability and beauty. Latches right onto projector platform in a matter of seconds. Light-weight, too!

**THE NEW 273** is the ideal running mate for any 16mm movie camera. See this superior buy today!



# Bell & Howell

**makes it fun**

**to make**

**(and show) movies!**